Potential Flow Forces and Moments from Selected Ship Flow Codes in a Set of Numerical Experiments

Appendix P — Minimum and Maximum Plots for Prescribed Pitch Motion of Model 5514

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Contents

Page

Figures P–2
Tables P–6
Introduction P–41

Figures

Page

P–1. Minimum and maximum of filtered $(\theta - \langle\theta\rangle)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–42

P–2. Minimum and maximum of filtered $(\theta - \langle\theta\rangle)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–47

P–3. Minimum and maximum of filtered $(\theta - \langle\theta\rangle)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–52

P–4. Minimum and maximum of filtered $(\theta - \langle\theta\rangle)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–57

P–5. Minimum and maximum of filtered $(\theta - \langle\theta\rangle)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–62

P–6. Minimum and maximum of filtered $(\theta - \langle\theta\rangle)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–67

P–7. Minimum and maximum of filtered $(F_x^{\text{ptot}} - \langle F_x^{\text{ptot}}\rangle)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–72

P–8. Minimum and maximum of filtered $(F_x^{\text{ptot}} - \langle F_x^{\text{ptot}}\rangle)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–77

P–9. Minimum and maximum of filtered $(F_x^{\text{ptot}} - \langle F_x^{\text{ptot}}\rangle)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–82

P–10. Minimum and maximum of filtered $(F_x^{\text{ptot}} - \langle F_x^{\text{ptot}}\rangle)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–87

P–11. Minimum and maximum of filtered $(F_x^{\text{ptot}} - \langle F_x^{\text{ptot}}\rangle)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–92

P–12. Minimum and maximum of filtered $\left(F_x^{\text{ptot}} - \langle F_x^{\text{ptot}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–97

P–13. Minimum and maximum of filtered $\left(F_z^{\text{ptot}} - \langle F_z^{\text{ptot}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–102

P–14. Minimum and maximum of filtered $\left(F_z^{\text{ptot}} - \langle F_z^{\text{ptot}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–107

P–15. Minimum and maximum of filtered $\left(F_z^{\text{ptot}} - \langle F_z^{\text{ptot}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–112

P–16. Minimum and maximum of filtered $\left(F_z^{\text{ptot}} - \langle F_z^{\text{ptot}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–117

P–17. Minimum and maximum of filtered $\left(F_z^{\text{ptot}} - \langle F_z^{\text{ptot}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–122

P–18. Minimum and maximum of filtered $\left(F_z^{\text{ptot}} - \langle F_z^{\text{ptot}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–127

P–19. Minimum and maximum of filtered $\left(M_y^{\text{ptot}} - \langle M_y^{\text{ptot}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–132

P–20. Minimum and maximum of filtered $\left(M_y^{\text{ptot}} - \langle M_y^{\text{ptot}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–137

P–21. Minimum and maximum of filtered $\left(M_y^{\text{ptot}} - \langle M_y^{\text{ptot}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–142

P–22. Minimum and maximum of filtered $\left(M_y^{\text{ptot}} - \langle M_y^{\text{ptot}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–147

P–23. Minimum and maximum of filtered $\left(M_y^{\text{ptot}} - \langle M_y^{\text{ptot}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–152

P–24. Minimum and maximum of filtered $\left(M_y^{\text{ptot}} - \langle M_y^{\text{ptot}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–157

P–25. Minimum and maximum of filtered $\left(F_x^{\text{hst}} - \langle F_x^{\text{hst}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–162

P–26. Minimum and maximum of filtered $\left(F_x^{\text{hst}} - \langle F_x^{\text{hst}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–167
P–27. Minimum and maximum of filtered $\left(F_x^{\text{hst}} - \langle F_x^{\text{hst}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–172
P–28. Minimum and maximum of filtered $\left(F_x^{\text{hst}} - \langle F_x^{\text{hst}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–177
P–29. Minimum and maximum of filtered $\left(F_x^{\text{hst}} - \langle F_x^{\text{hst}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–182
P–30. Minimum and maximum of filtered $\left(F_x^{\text{hst}} - \langle F_x^{\text{hst}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–187
P–31. Minimum and maximum of filtered $\left(F_z^{\text{hst}} - \langle F_z^{\text{hst}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–192
P–32. Minimum and maximum of filtered $\left(F_z^{\text{hst}} - \langle F_z^{\text{hst}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–197
P–33. Minimum and maximum of filtered $\left(F_z^{\text{hst}} - \langle F_z^{\text{hst}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–202
P–34. Minimum and maximum of filtered $\left(F_z^{\text{hst}} - \langle F_z^{\text{hst}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–207
P–35. Minimum and maximum of filtered $\left(F_z^{\text{hst}} - \langle F_z^{\text{hst}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–212
P–36. Minimum and maximum of filtered $\left(F_z^{\text{hst}} - \langle F_z^{\text{hst}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–217
P–37. Minimum and maximum of filtered $\left(M_y^{\text{hst}} - \langle M_y^{\text{hst}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–222
P–38. Minimum and maximum of filtered $\left(M_y^{\text{hst}} - \langle M_y^{\text{hst}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–227
P–39. Minimum and maximum of filtered $\left(M_y^{\text{hst}} - \langle M_y^{\text{hst}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–232

P–40. Minimum and maximum of filtered $\left(M_y^{\text{hst}} - \langle M_y^{\text{hst}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–237

P–41. Minimum and maximum of filtered $\left(M_y^{\text{hst}} - \langle M_y^{\text{hst}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–242

P–42. Minimum and maximum of filtered $\left(M_y^{\text{hst}} - \langle M_y^{\text{hst}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–247

P–43. Minimum and maximum of filtered $\left(F_x^{\text{rad}} - \langle F_x^{\text{rad}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–252

P–44. Minimum and maximum of filtered $\left(F_x^{\text{rad}} - \langle F_x^{\text{rad}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–257

P–45. Minimum and maximum of filtered $\left(F_x^{\text{rad}} - \langle F_x^{\text{rad}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–262

P–46. Minimum and maximum of filtered $\left(F_x^{\text{rad}} - \langle F_x^{\text{rad}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–267

P–47. Minimum and maximum of filtered $\left(F_x^{\text{rad}} - \langle F_x^{\text{rad}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–272

P–48. Minimum and maximum of filtered $\left(F_x^{\text{rad}} - \langle F_x^{\text{rad}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–277

P–49. Minimum and maximum of filtered $\left(F_z^{\text{rad}} - \langle F_z^{\text{rad}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–282

P–50. Minimum and maximum of filtered $\left(F_z^{\text{rad}} - \langle F_z^{\text{rad}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–287

P–51. Minimum and maximum of filtered $\left(F_z^{\text{rad}} - \langle F_z^{\text{rad}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–292

P–52. Minimum and maximum of filtered $\left(F_z^{\text{rad}} - \langle F_z^{\text{rad}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–297

P–53. Minimum and maximum of filtered $\left(F_z^{\text{rad}} - \langle F_z^{\text{rad}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–302

P–54. Minimum and maximum of filtered $\left(F_z^{\text{rad}} - \langle F_z^{\text{rad}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–307
P–55. Minimum and maximum of filtered $\left(M_y^{\text{rad}} - \langle M_y^{\text{rad}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–312
P–56. Minimum and maximum of filtered $\left(M_y^{\text{rad}} - \langle M_y^{\text{rad}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–317
P–57. Minimum and maximum of filtered $\left(M_y^{\text{rad}} - \langle M_y^{\text{rad}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–322
P–58. Minimum and maximum of filtered $\left(M_y^{\text{rad}} - \langle M_y^{\text{rad}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–327
P–59. Minimum and maximum of filtered $\left(M_y^{\text{rad}} - \langle M_y^{\text{rad}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–332
P–60. Minimum and maximum of filtered $\left(M_y^{\text{rad}} - \langle M_y^{\text{rad}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m. P–337

Tables

Page

P–1. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–43
P–2. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–43
P–3. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–44
P–4. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–44
P–5. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–45
P–6. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–45

P–7. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–46
P–8. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–46
P–9. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–48
P–10. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–48
P–11. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–49
P–12. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–49
P–13. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–50
P–14. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–50
P–15. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–51
P–16. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–51
P–17. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–53
P–18. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–53
P–19. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–54
P–20. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–54

P–21. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–55
P–22. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–55
P–23. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–56
P–24. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–56
P–25. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–58
P–26. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–58
P–27. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–59
P–28. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–59
P–29. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–60
P–30. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–60
P–31. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–61
P–32. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–61
P–33. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–63
P–34. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–63

P–35. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–64
P–36. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–64
P–37. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–65
P–38. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–65
P–39. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–66
P–40. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–66
P–41. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–68
P–42. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–68
P–43. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–69
P–44. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–69
P–45. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–70
P–46. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–70
P–47. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–71
P–48. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–71

P–49. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–73
P–50. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–73
P–51. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–74
P–52. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–74
P–53. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–75
P–54. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–75
P–55. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–76
P–56. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–76
P–57. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–78
P–58. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–78
P–59. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–79
P–60. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–79
P–61. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–80
P–62. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–80

P–63. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–81
P–64. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–81
P–65. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–83
P–66. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–83
P–67. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–84
P–68. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–84
P–69. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–85
P–70. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–85
P–71. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–86
P–72. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–86
P–73. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–88
P–74. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–88
P–75. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–89
P–76. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–89

P–77. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–90
P–78. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–90
P–79. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–91
P–80. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–91
P–81. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–93
P–82. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–93
P–83. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–94
P–84. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–94
P–85. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–95
P–86. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–95
P–87. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–96
P–88. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–96
P–89. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–98
P–90. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–98

P–91. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–99
P–92. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–99
P–93. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–100
P–94. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–100
P–95. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–101
P–96. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–101
P–97. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–103
P–98. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–103
P–99. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–104
P–100. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–104
P–101. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–105
P–102. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–105
P–103. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–106
P–104. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–106

P–105. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–108
P–106. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–108
P–107. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–109
P–108. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–109
P–109. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–110
P–110. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–110
P–111. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–111
P–112. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–111
P–113. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–113
P–114. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–113
P–115. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–114
P–116. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–114
P–117. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–115
P–118. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–115

P–119. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–116
P–120. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–116
P–121. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–118
P–122. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–118
P–123. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–119
P–124. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–119
P–125. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–120
P–126. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–120
P–127. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–121
P–128. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–121
P–129. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–123
P–130. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–123
P–131. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–124
P–132. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–124

P–133. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–125
P–134. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–125
P–135. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–126
P–136. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–126
P–137. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–128
P–138. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–128
P–139. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–129
P–140. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–129
P–141. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–130
P–142. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–130
P–143. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–131
P–144. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–131
P–145. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–133
P–146. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–133

P–147. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–134
P–148. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–134
P–149. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–135
P–150. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–135
P–151. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–136
P–152. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–136
P–153. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–138
P–154. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–138
P–155. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–139
P–156. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–139
P–157. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–140
P–158. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–140
P–159. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–141
P–160. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–141

P–161. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–143
P–162. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–143
P–163. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–144
P–164. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–144
P–165. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–145
P–166. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–145
P–167. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–146
P–168. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–146
P–169. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–148
P–170. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–148
P–171. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–149
P–172. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–149
P–173. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–150
P–174. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–150

P–175. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–151
P–176. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–151
P–177. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–153
P–178. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–153
P–179. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–154
P–180. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–154
P–181. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–155
P–182. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–155
P–183. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–156
P–184. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–156
P–185. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–158
P–186. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–158
P–187. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–159
P–188. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–159

P–189. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–160
P–190. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–160
P–191. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–161
P–192. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–161
P–193. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–163
P–194. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–163
P–195. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–164
P–196. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–164
P–197. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–165
P–198. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–165
P–199. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–166
P–200. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–166
P–201. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–168
P–202. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–168

P–203. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–169
P–204. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–169
P–205. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–170
P–206. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–170
P–207. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–171
P–208. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–171
P–209. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–173
P–210. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–173
P–211. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–174
P–212. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–174
P–213. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–175
P–214. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–175
P–215. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–176
P–216. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–176

P–217. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–178
P–218. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–178
P–219. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–179
P–220. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–179
P–221. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–180
P–222. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–180
P–223. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–181
P–224. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–181
P–225. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–183
P–226. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–183
P–227. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–184
P–228. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–184
P–229. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–185
P–230. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–185

P–231. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–186
P–232. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–186
P–233. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–188
P–234. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–188
P–235. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (FRE-DYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–189
P–236. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–189
P–237. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–190
P–238. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–190
P–239. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–191
P–240. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–191
P–241. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–193
P–242. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–193
P–243. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (FRE-DYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–194
P–244. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–194

P–245. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–195
P–246. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–195
P–247. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–196
P–248. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–196
P–249. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–198
P–250. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–198
P–251. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (FRE-DYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–199
P–252. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–199
P–253. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–200
P–254. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–200
P–255. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–201
P–256. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–201
P–257. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–203
P–258. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–203

P–259. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–204
P–260. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–204
P–261. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–205
P–262. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–205
P–263. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–206
P–264. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–206
P–265. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–208
P–266. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–208
P–267. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–209
P–268. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–209
P–269. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–210
P–270. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–210
P–271. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–211
P–272. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–211

P–273. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–213
P–274. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–213
P–275. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–214
P–276. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–214
P–277. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–215
P–278. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–215
P–279. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–216
P–280. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–216
P–281. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–218
P–282. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–218
P–283. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–219
P–284. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–219
P–285. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–220
P–286. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–220

P–287. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–221
P–288. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–221
P–289. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–223
P–290. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–223
P–291. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–224
P–292. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–224
P–293. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–225
P–294. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–225
P–295. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–226
P–296. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–226
P–297. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–228
P–298. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–228
P–299. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–229
P–300. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–229

P–301. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–230
P–302. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–230
P–303. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–231
P–304. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–231
P–305. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–233
P–306. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–233
P–307. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (FRE-DYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–234
P–308. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–234
P–309. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–235
P–310. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–235
P–311. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–236
P–312. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–236
P–313. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–238
P–314. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–238

P–315. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–239
P–316. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–239
P–317. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–240
P–318. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–240
P–319. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–241
P–320. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–241
P–321. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–243
P–322. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–243
P–323. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–244
P–324. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–244
P–325. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–245
P–326. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–245
P–327. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–246
P–328. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–246

P–329. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–248
P–330. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–248
P–331. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–249
P–332. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–249
P–333. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–250
P–334. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–250
P–335. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–251
P–336. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–251
P–337. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–253
P–338. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–253
P–339. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–254
P–340. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–254
P–341. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–255
P–342. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–255

P–343. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–256
P–344. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–256
P–345. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–258
P–346. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–258
P–347. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–259
P–348. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–259
P–349. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–260
P–350. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–260
P–351. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–261
P–352. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–261
P–353. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–263
P–354. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–263
P–355. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–264
P–356. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–264

P–357. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–265
P–358. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–265
P–359. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–266
P–360. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–266
P–361. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–268
P–362. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–268
P–363. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (FRE-DYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–269
P–364. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–269
P–365. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–270
P–366. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–270
P–367. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–271
P–368. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–271
P–369. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–273
P–370. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–273

P–371. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–274
P–372. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–274
P–373. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–275
P–374. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–275
P–375. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–276
P–376. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–276
P–377. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–278
P–378. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–278
P–379. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–279
P–380. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–279
P–381. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–280
P–382. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–280
P–383. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–281
P–384. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–281

P–385. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–283
P–386. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–283
P–387. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–284
P–388. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–284
P–389. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–285
P–390. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–285
P–391. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–286
P–392. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–286
P–393. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–288
P–394. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–288
P–395. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–289
P–396. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–289
P–397. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–290
P–398. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–290

P–399. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–291
P–400. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–291
P–401. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–293
P–402. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–293
P–403. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–294
P–404. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–294
P–405. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–295
P–406. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–295
P–407. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–296
P–408. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–296
P–409. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–298
P–410. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–298
P–411. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–299
P–412. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–299

P–413. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–300
P–414. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–300
P–415. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–301
P–416. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–301
P–417. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–303
P–418. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–303
P–419. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (FRE-DYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–304
P–420. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–304
P–421. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–305
P–422. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–305
P–423. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–306
P–424. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–306
P–425. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–308
P–426. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–308

P–427. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–309
P–428. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–309
P–429. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–310
P–430. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–310
P–431. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–311
P–432. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–311
P–433. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–313
P–434. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–313
P–435. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–314
P–436. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–314
P–437. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–315
P–438. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–315
P–439. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–316
P–440. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$) P–316

P–441. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–318
P–442. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–318
P–443. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–319
P–444. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–319
P–445. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–320
P–446. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–320
P–447. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–321
P–448. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$) P–321
P–449. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–323
P–450. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–323
P–451. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–324
P–452. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–324
P–453. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–325
P–454. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–325

P–455. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–326
P–456. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$) P–326
P–457. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–328
P–458. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–328
P–459. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–329
P–460. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–329
P–461. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–330
P–462. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–330
P–463. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–331
P–464. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$) P–331
P–465. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–333
P–466. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–333
P–467. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–334
P–468. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–334

P–469. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–335
P–470. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–335
P–471. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–336
P–472. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$) P–336
P–473. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–338
P–474. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–338
P–475. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–339
P–476. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–339
P–477. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–340
P–478. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–340
P–479. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–341
P–480. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$) P–341

Introduction

This appendix contains plots and tables related to the minimum and maximum value of each variable versus the pitch amplitude θ_a for the prescribed pitch motion of Model 5514 in task 1. The plots are found in Figures P–1 through P–60. For each variable, speed, and frequency there is one plot that depicts the results from all the codes. If f stands for a time-dependent variable, then the quantities plotted are the minimum and maximum of

$$f^* \equiv \frac{f - \langle f \rangle}{\theta_a}$$

where $\langle f \rangle$ is the mean. Only filtered values f are used since filtered values lessen the impact of spikes that probably originate in numerical filtering schemes in the codes. Linear variation as a function of the amplitude appears as a horizontal line. Quadratic variation appears as a straight line with a nonzero slope.

Tables P–1 through P–480 in this appendix correspond to the plots. Following each plot is one table for each of the eight codes for which data were received. The tables give information about the mean, the minimum and maximum of the unfiltered variable, the minimum and maximum of the filtered variable, and the starred function depicted in the figure.

For the corresponding time history plots, the reader is referred to Appendix F.

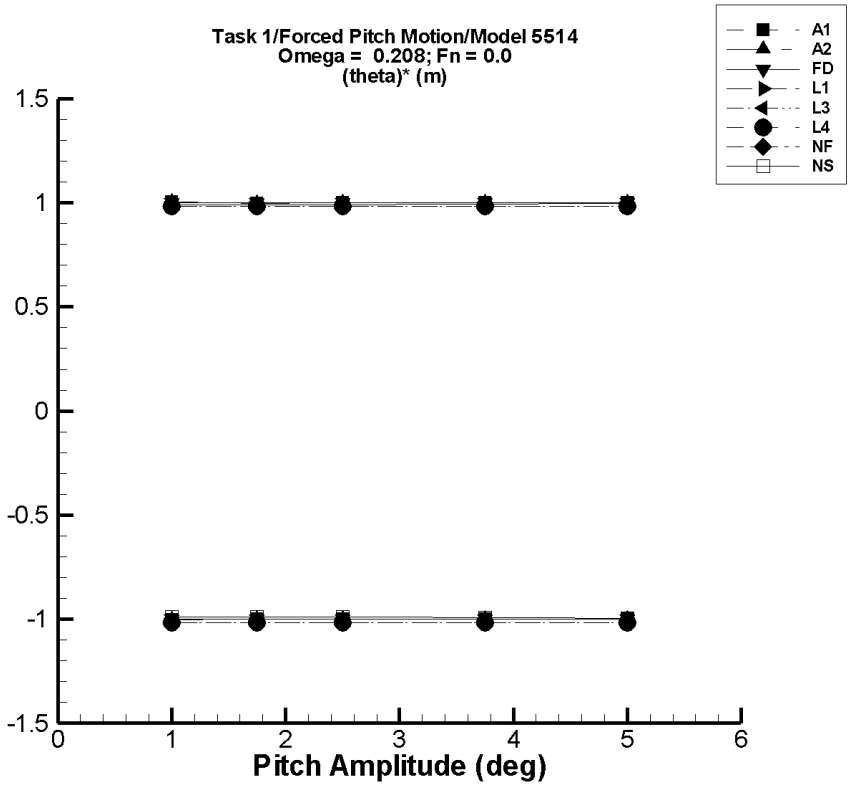

Figure P–1. Minimum and maximum of filtered $(\theta - \langle\theta\rangle)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–1. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle\theta\rangle$	**Unfiltered θ**		**Filtered θ**		**Filtered $(\theta)^*$**	
θ_a (°)	**Mean (deg)**	**Min. (deg)**	**Max. (deg)**	**Min. (deg)**	**Max. (deg)**	**Min.** (1)	**Max.** (1)
1.00	-6.06E-07	-1.00	1.00	-1.00	1.00	-1.00	1.00
1.75	-1.18E-06	-1.75	1.75	-1.75	1.75	-0.997	0.999
2.50	-1.52E-06	-2.50	2.50	-2.50	2.50	-0.998	0.999
3.75	-3.13E-06	-3.75	3.75	-3.74	3.75	-0.998	0.999
5.00	-3.69E-06	-5.00	5.00	-5.00	5.00	-0.999	1.00

Table P–2. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle\theta\rangle$	**Unfiltered θ**		**Filtered θ**		**Filtered $(\theta)^*$**	
θ_a (°)	**Mean (deg)**	**Min. (deg)**	**Max. (deg)**	**Min. (deg)**	**Max. (deg)**	**Min.** (1)	**Max.** (1)
1.00	-6.06E-07	-1.00	1.00	-1.00	1.00	-1.00	1.00
1.75	-1.18E-06	-1.75	1.75	-1.75	1.75	-0.997	0.999
2.50	-1.52E-06	-2.50	2.50	-2.50	2.50	-0.998	0.999
3.75	-3.13E-06	-3.75	3.75	-3.74	3.75	-0.998	0.999
5.00	-3.69E-06	-5.00	5.00	-5.00	5.00	-0.999	1.00

Table P–3. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle\theta\rangle$	Unfiltered θ		Filtered θ		Filtered $(\theta)^*$	
θ_a (°)	Mean (deg)	Min. (deg)	Max. (deg)	Min. (deg)	Max. (deg)	Min. (1)	Max. (1)
1.00	-7.23E-08	-1.00	1.00	-0.999	0.999	-0.999	0.999
1.75	-3.44E-08	-1.75	1.75	-1.75	1.75	-0.999	0.999
2.50	-1.64E-07	-2.50	2.50	-2.50	2.50	-0.999	0.999
3.75	1.14E-07	-3.75	3.75	-3.75	3.75	-0.999	0.999
5.00	-2.70E-07	-5.00	5.00	-4.99	4.99	-0.999	0.999

Table P–4. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle\theta\rangle$	Unfiltered θ		Filtered θ		Filtered $(\theta)^*$	
θ_a (°)	Mean (deg)	Min. (deg)	Max. (deg)	Min. (deg)	Max. (deg)	Min. (1)	Max. (1)
1.00	-1.18E-06	-1.00	1.00	-1.00	1.00	-1.00	1.00
1.75	-1.93E-06	-1.75	1.75	-1.75	1.75	-1.00	1.00
2.50	-2.91E-06	-2.50	2.50	-2.50	2.50	-1.00	1.00
3.75	1.89E-07	-3.75	3.75	-3.75	3.75	-1.00	1.00
5.00	-5.24E-06	-5.00	5.00	-5.00	5.00	-1.00	1.00

Table P–5. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle\theta\rangle$	**Unfiltered θ**		**Filtered θ**		**Filtered $(\theta)^*$**	
θ_a (°)	**Mean (deg)**	**Min. (deg)**	**Max. (deg)**	**Min. (deg)**	**Max. (deg)**	**Min.** (1)	**Max.** (1)
1.00	-1.18E-06	-1.00	1.00	-1.00	1.00	-1.00	1.00
1.75	-1.93E-06	-1.75	1.75	-1.75	1.75	-1.00	1.00
2.50	-2.91E-06	-2.50	2.50	-2.50	2.50	-1.00	1.00
3.75	1.89E-07	-3.75	3.75	-3.75	3.75	-1.00	1.00
5.00	-5.24E-06	-5.00	5.00	-5.00	5.00	-1.00	1.00

Table P–6. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle\theta\rangle$	**Unfiltered θ**		**Filtered θ**		**Filtered $(\theta)^*$**	
θ_a (°)	**Mean (deg)**	**Min. (deg)**	**Max. (deg)**	**Min. (deg)**	**Max. (deg)**	**Min.** (1)	**Max.** (1)
1.00	-1.18E-06	-1.00	1.00	-1.00	1.00	-1.00	1.00
1.75	-1.93E-06	-1.75	1.75	-1.75	1.75	-1.00	1.00
2.50	-2.91E-06	-2.50	2.50	-2.50	2.50	-1.00	1.00
3.75	1.89E-07	-3.75	3.75	-3.75	3.75	-1.00	1.00
5.00	-5.24E-06	-5.00	5.00	-5.00	5.00	-1.00	1.00

Table P–7. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NFA							
	$\langle\theta\rangle$	Unfiltered θ		Filtered θ		Filtered $(\theta)^*$	
θ_a (°)	Mean (deg)	Min. (deg)	Max. (deg)	Min. (deg)	Max. (deg)	Min. (1)	Max. (1)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–8. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NSHIPMO							
	$\langle\theta\rangle$	Unfiltered θ		Filtered θ		Filtered $(\theta)^*$	
θ_a (°)	Mean (deg)	Min. (deg)	Max. (deg)	Min. (deg)	Max. (deg)	Min. (1)	Max. (1)
1.00	4.89E-08	-1.00	1.00	-0.990	0.990	-0.990	0.990
1.75	1.87E-07	-1.75	1.75	-1.73	1.73	-0.990	0.990
2.50	2.43E-07	-2.50	2.50	-2.48	2.48	-0.990	0.990
3.75	-7.97E-08	-3.75	3.75	-3.73	3.73	-0.994	0.994
5.00	3.33E-07	-5.00	5.00	-4.98	4.98	-0.997	0.997

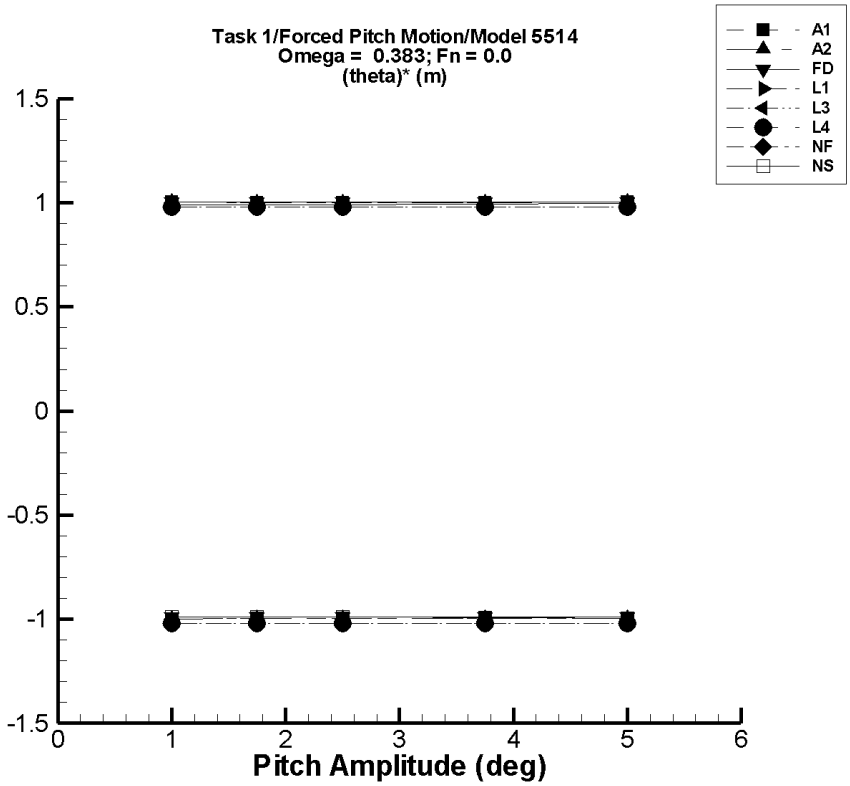

Figure P–2. Minimum and maximum of filtered $(\theta - \langle\theta\rangle)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–9. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle\theta\rangle$	Unfiltered θ		Filtered θ		Filtered $(\theta)^*$	
θ_a (°)	Mean (deg)	Min. (deg)	Max. (deg)	Min. (deg)	Max. (deg)	Min. (1)	Max. (1)
1.00	-4.18E-08	-1.00	1.00	-0.999	1.01	-0.999	1.01
1.75	3.68E-08	-1.75	1.75	-1.74	1.75	-0.995	1.00
2.50	1.32E-07	-2.50	2.50	-2.49	2.50	-0.996	1.00
3.75	2.64E-08	-3.75	3.75	-3.73	3.76	-0.996	1.00
5.00	-6.11E-08	-5.00	5.00	-4.98	5.02	-0.997	1.00

Table P–10. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle\theta\rangle$	Unfiltered θ		Filtered θ		Filtered $(\theta)^*$	
θ_a (°)	Mean (deg)	Min. (deg)	Max. (deg)	Min. (deg)	Max. (deg)	Min. (1)	Max. (1)
1.00	-4.18E-08	-1.00	1.00	-0.999	1.01	-0.999	1.01
1.75	3.68E-08	-1.75	1.75	-1.74	1.75	-0.995	1.00
2.50	1.32E-07	-2.50	2.50	-2.49	2.50	-0.996	1.00
3.75	2.64E-08	-3.75	3.75	-3.73	3.76	-0.996	1.00
5.00	-6.11E-08	-5.00	5.00	-4.98	5.02	-0.997	1.00

Table P–11. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle\theta\rangle$	Unfiltered θ		Filtered θ		Filtered $(\theta)^*$	
θ_a (°)	Mean (deg)	Min. (deg)	Max. (deg)	Min. (deg)	Max. (deg)	Min. (1)	Max. (1)
1.00	-1.35E-07	-1.00	1.00	-0.996	0.996	-0.996	0.996
1.75	-1.87E-07	-1.75	1.75	-1.74	1.74	-0.996	0.996
2.50	-3.07E-07	-2.50	2.50	-2.49	2.49	-0.996	0.996
3.75	-6.55E-07	-3.75	3.75	-3.74	3.74	-0.996	0.996
5.00	-5.16E-07	-5.00	5.00	-4.98	4.98	-0.996	0.996

Table P–12. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle\theta\rangle$	Unfiltered θ		Filtered θ		Filtered $(\theta)^*$	
θ_a (°)	Mean (deg)	Min. (deg)	Max. (deg)	Min. (deg)	Max. (deg)	Min. (1)	Max. (1)
1.00	6.15E-06	-1.00	1.00	-0.999	0.999	-0.999	0.999
1.75	1.06E-05	-1.75	1.75	-1.75	1.75	-0.999	0.999
2.50	1.51E-05	-2.50	2.50	-2.50	2.50	-0.999	0.999
3.75	3.48E-05	-3.75	3.75	-3.75	3.75	-0.999	0.999
5.00	2.99E-05	-5.00	5.00	-4.99	4.99	-0.999	0.999

Table P–13. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle\theta\rangle$	**Unfiltered θ**		**Filtered θ**		**Filtered $(\theta)^*$**	
θ_a	**Mean**	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**
(°)	**(deg)**	**(deg)**	**(deg)**	**(deg)**	**(deg)**	(1)	(1)
1.00	6.15E-06	-1.00	1.00	-0.999	0.999	-0.999	0.999
1.75	1.06E-05	-1.75	1.75	-1.75	1.75	-0.999	0.999
2.50	1.51E-05	-2.50	2.50	-2.50	2.50	-0.999	0.999
3.75	3.48E-05	-3.75	3.75	-3.75	3.75	-0.999	0.999
5.00	2.99E-05	-5.00	5.00	-4.99	4.99	-0.999	0.999

Table P–14. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle\theta\rangle$	**Unfiltered θ**		**Filtered θ**		**Filtered $(\theta)^*$**	
θ_a	**Mean**	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**
(°)	**(deg)**	**(deg)**	**(deg)**	**(deg)**	**(deg)**	(1)	(1)
1.00	6.15E-06	-1.00	1.00	-0.999	0.999	-0.999	0.999
1.75	1.06E-05	-1.75	1.75	-1.75	1.75	-0.999	0.999
2.50	1.51E-05	-2.50	2.50	-2.50	2.50	-0.999	0.999
3.75	3.48E-05	-3.75	3.75	-3.75	3.75	-0.999	0.999
5.00	2.99E-05	-5.00	5.00	-4.99	4.99	-0.999	0.999

Table P–15. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NFA							
	$\langle\theta\rangle$	Unfiltered θ		Filtered θ		Filtered $(\theta)^*$	
θ_a (°)	Mean (deg)	Min. (deg)	Max. (deg)	Min. (deg)	Max. (deg)	Min. (1)	Max. (1)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–16. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NSHIPMO							
	$\langle\theta\rangle$	Unfiltered θ		Filtered θ		Filtered $(\theta)^*$	
θ_a (°)	Mean (deg)	Min. (deg)	Max. (deg)	Min. (deg)	Max. (deg)	Min. (1)	Max. (1)
1.00	-1.73E-08	-1.00	1.00	-0.990	0.990	-0.990	0.990
1.75	-2.42E-08	-1.75	1.75	-1.73	1.73	-0.990	0.990
2.50	-1.39E-07	-2.50	2.50	-2.47	2.47	-0.990	0.990
3.75	-6.09E-08	-3.75	3.75	-3.73	3.73	-0.994	0.994
5.00	-1.77E-07	-5.00	5.00	-4.98	4.98	-0.997	0.997

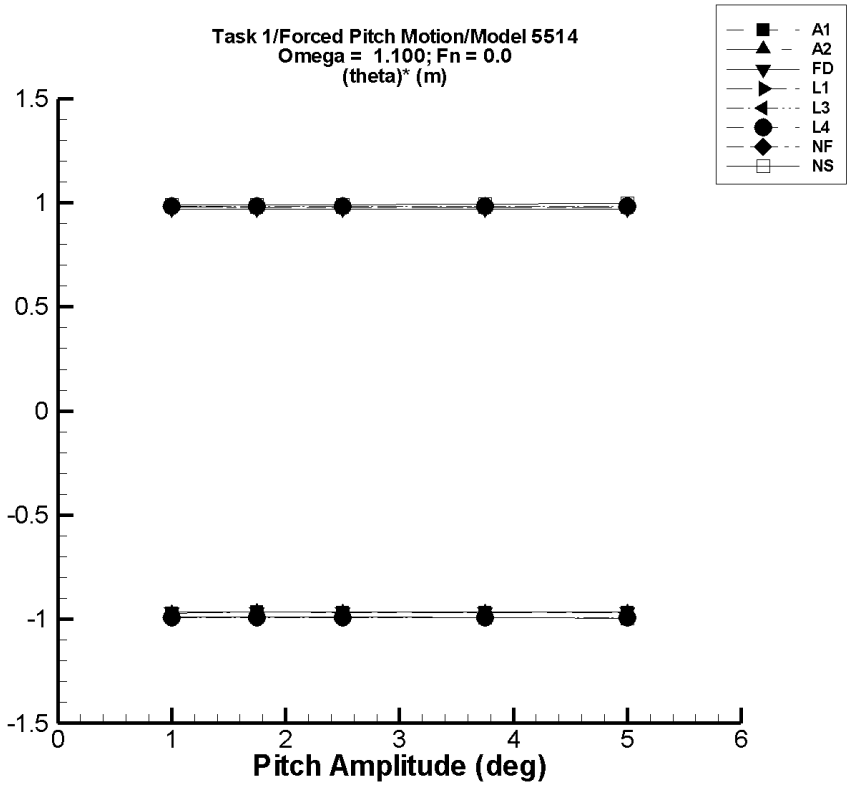

Figure P–3. Minimum and maximum of filtered $(\theta - \langle\theta\rangle)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–17. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle\theta\rangle$	**Unfiltered θ**		**Filtered θ**		**Filtered $(\theta)^*$**	
θ_a	**Mean**	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**
(°)	**(deg)**	**(deg)**	**(deg)**	**(deg)**	**(deg)**	(1)	(1)
1.00	-1.04E-06	-1.00	1.00	-0.971	0.978	-0.971	0.978
1.75	-1.85E-06	-1.75	1.75	-1.69	1.71	-0.967	0.974
2.50	-2.58E-06	-2.50	2.50	-2.42	2.44	-0.968	0.975
3.75	-4.00E-06	-3.74	3.75	-3.63	3.66	-0.968	0.975
5.00	-5.39E-06	-5.00	5.00	-4.84	4.88	-0.969	0.976

Table P–18. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle\theta\rangle$	**Unfiltered θ**		**Filtered θ**		**Filtered $(\theta)^*$**	
θ_a	**Mean**	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**
(°)	**(deg)**	**(deg)**	**(deg)**	**(deg)**	**(deg)**	(1)	(1)
1.00	-1.04E-06	-1.00	1.00	-0.971	0.978	-0.971	0.978
1.75	-1.85E-06	-1.75	1.75	-1.69	1.71	-0.967	0.974
2.50	-2.58E-06	-2.50	2.50	-2.42	2.44	-0.968	0.975
3.75	-4.00E-06	-3.74	3.75	-3.63	3.66	-0.968	0.975
5.00	-5.39E-06	-5.00	5.00	-4.84	4.88	-0.969	0.976

Table P–19. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle\theta\rangle$	Unfiltered θ		Filtered θ		Filtered $(\theta)^*$	
θ_a (°)	Mean (deg)	Min. (deg)	Max. (deg)	Min. (deg)	Max. (deg)	Min. (1)	Max. (1)
1.00	-7.48E-09	-0.999	1.00	-0.968	0.968	-0.968	0.968
1.75	-1.00E-07	-1.75	1.75	-1.69	1.69	-0.968	0.968
2.50	-1.71E-07	-2.50	2.50	-2.42	2.42	-0.968	0.968
3.75	-5.81E-07	-3.75	3.75	-3.63	3.63	-0.968	0.968
5.00	-2.50E-07	-4.99	5.00	-4.84	4.84	-0.968	0.968

Table P–20. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle\theta\rangle$	Unfiltered θ		Filtered θ		Filtered $(\theta)^*$	
θ_a (°)	Mean (deg)	Min. (deg)	Max. (deg)	Min. (deg)	Max. (deg)	Min. (1)	Max. (1)
1.00	7.07E-05	-1.00	1.00	-0.989	0.989	-0.989	0.989
1.75	1.27E-04	-1.75	1.75	-1.73	1.73	-0.989	0.989
2.50	1.78E-04	-2.50	2.50	-2.47	2.47	-0.989	0.989
3.75	2.70E-04	-3.75	3.75	-3.71	3.71	-0.989	0.989
5.00	3.56E-04	-5.00	5.00	-4.94	4.94	-0.989	0.989

Table P–21. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle\theta\rangle$	Unfiltered θ		Filtered θ		Filtered $(\theta)^*$	
θ_a (°)	Mean (deg)	Min. (deg)	Max. (deg)	Min. (deg)	Max. (deg)	Min. (1)	Max. (1)
1.00	7.07E-05	-1.00	1.00	-0.989	0.989	-0.989	0.989
1.75	1.27E-04	-1.75	1.75	-1.73	1.73	-0.989	0.989
2.50	1.78E-04	-2.50	2.50	-2.47	2.47	-0.989	0.989
3.75	2.70E-04	-3.75	3.75	-3.71	3.71	-0.989	0.989
5.00	3.56E-04	-5.00	5.00	-4.94	4.94	-0.989	0.989

Table P–22. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle\theta\rangle$	Unfiltered θ		Filtered θ		Filtered $(\theta)^*$	
θ_a (°)	Mean (deg)	Min. (deg)	Max. (deg)	Min. (deg)	Max. (deg)	Min. (1)	Max. (1)
1.00	7.07E-05	-1.00	1.00	-0.989	0.989	-0.989	0.989
1.75	1.27E-04	-1.75	1.75	-1.73	1.73	-0.989	0.989
2.50	1.78E-04	-2.50	2.50	-2.47	2.47	-0.989	0.989
3.75	2.70E-04	-3.75	3.75	-3.71	3.71	-0.989	0.989
5.00	3.56E-04	-5.00	5.00	-4.94	4.94	-0.989	0.989

Table P–23. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NFA							
	$\langle\theta\rangle$	Unfiltered θ		Filtered θ		Filtered $(\theta)^*$	
θ_a (°)	Mean (deg)	Min. (deg)	Max. (deg)	Min. (deg)	Max. (deg)	Min. (1)	Max. (1)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–24. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NSHIPMO							
	$\langle\theta\rangle$	Unfiltered θ		Filtered θ		Filtered $(\theta)^*$	
θ_a (°)	Mean (deg)	Min. (deg)	Max. (deg)	Min. (deg)	Max. (deg)	Min. (1)	Max. (1)
1.00	-4.15E-08	-1.00	1.00	-0.990	0.990	-0.990	0.990
1.75	-1.24E-07	-1.75	1.75	-1.73	1.73	-0.990	0.990
2.50	-3.02E-07	-2.50	2.50	-2.47	2.47	-0.990	0.990
3.75	-2.18E-07	-3.75	3.75	-3.73	3.73	-0.994	0.994
5.00	6.54E-07	-5.00	5.00	-4.98	4.98	-0.997	0.997

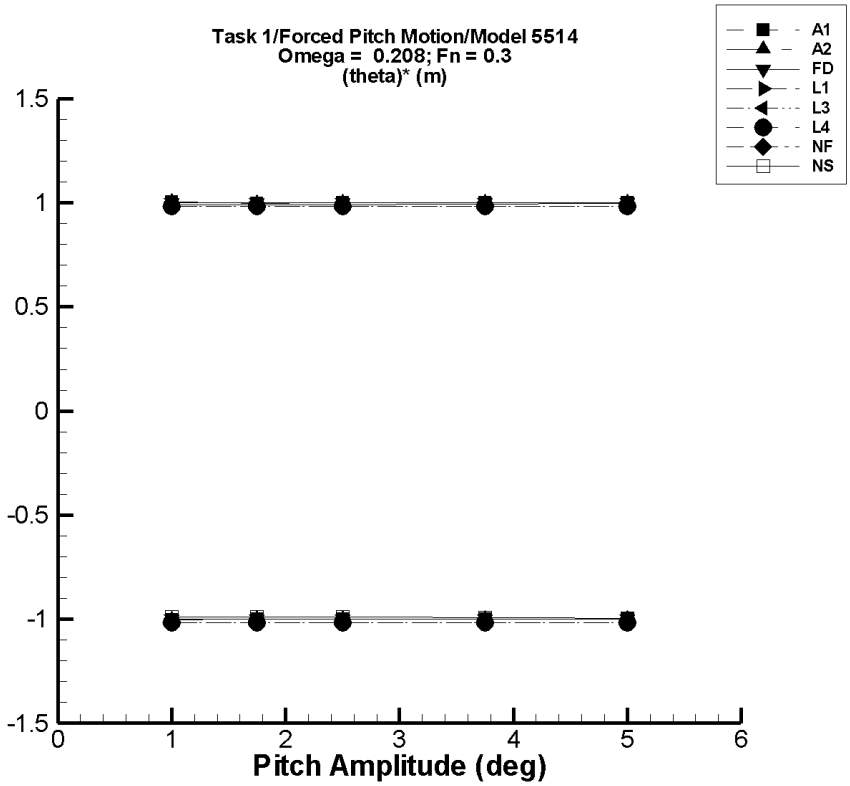

Figure P–4. Minimum and maximum of filtered $(\theta - \langle\theta\rangle)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–25. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle\theta\rangle$	**Unfiltered θ**		**Filtered θ**		**Filtered $(\theta)^*$**	
θ_a	**Mean**	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**
(°)	**(deg)**	**(deg)**	**(deg)**	**(deg)**	**(deg)**	(1)	(1)
1.00	-6.06E-07	-1.00	1.00	-1.00	1.00	-1.00	1.00
1.75	-1.18E-06	-1.75	1.75	-1.75	1.75	-0.997	0.999
2.50	-1.52E-06	-2.50	2.50	-2.50	2.50	-0.998	0.999
3.75	-3.13E-06	-3.75	3.75	-3.74	3.75	-0.998	0.999
5.00	-3.69E-06	-5.00	5.00	-5.00	5.00	-0.999	1.00

Table P–26. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle\theta\rangle$	**Unfiltered θ**		**Filtered θ**		**Filtered $(\theta)^*$**	
θ_a	**Mean**	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**
(°)	**(deg)**	**(deg)**	**(deg)**	**(deg)**	**(deg)**	(1)	(1)
1.00	-6.06E-07	-1.00	1.00	-1.00	1.00	-1.00	1.00
1.75	-1.18E-06	-1.75	1.75	-1.75	1.75	-0.997	0.999
2.50	-1.52E-06	-2.50	2.50	-2.50	2.50	-0.998	0.999
3.75	-3.13E-06	-3.75	3.75	-3.74	3.75	-0.998	0.999
5.00	-3.69E-06	-5.00	5.00	-5.00	5.00	-0.999	1.00

Table P–27. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle\theta\rangle$	**Unfiltered θ**		**Filtered θ**		**Filtered $(\theta)^*$**	
θ_a (°)	**Mean (deg)**	**Min. (deg)**	**Max. (deg)**	**Min. (deg)**	**Max. (deg)**	**Min.** (1)	**Max.** (1)
1.00	-7.23E-08	-1.00	1.00	-0.999	0.999	-0.999	0.999
1.75	-3.44E-08	-1.75	1.75	-1.75	1.75	-0.999	0.999
2.50	-1.64E-07	-2.50	2.50	-2.50	2.50	-0.999	0.999
3.75	1.14E-07	-3.75	3.75	-3.75	3.75	-0.999	0.999
5.00	-2.70E-07	-5.00	5.00	-4.99	4.99	-0.999	0.999

Table P–28. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle\theta\rangle$	**Unfiltered θ**		**Filtered θ**		**Filtered $(\theta)^*$**	
θ_a (°)	**Mean (deg)**	**Min. (deg)**	**Max. (deg)**	**Min. (deg)**	**Max. (deg)**	**Min.** (1)	**Max.** (1)
1.00	-1.18E-06	-1.00	1.00	-1.00	1.00	-1.00	1.00
1.75	-1.93E-06	-1.75	1.75	-1.75	1.75	-1.00	1.00
2.50	-2.91E-06	-2.50	2.50	-2.50	2.50	-1.00	1.00
3.75	1.89E-07	-3.75	3.75	-3.75	3.75	-1.00	1.00
5.00	-5.24E-06	-5.00	5.00	-5.00	5.00	-1.00	1.00

Table P–29. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle\theta\rangle$	**Unfiltered θ**		**Filtered θ**		**Filtered $(\theta)^*$**	
θ_a	**Mean**	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**
(°)	**(deg)**	**(deg)**	**(deg)**	**(deg)**	**(deg)**	(1)	(1)
1.00	-1.18E-06	-1.00	1.00	-1.00	1.00	-1.00	1.00
1.75	-1.93E-06	-1.75	1.75	-1.75	1.75	-1.00	1.00
2.50	-2.91E-06	-2.50	2.50	-2.50	2.50	-1.00	1.00
3.75	1.89E-07	-3.75	3.75	-3.75	3.75	-1.00	1.00
5.00	-5.24E-06	-5.00	5.00	-5.00	5.00	-1.00	1.00

Table P–30. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle\theta\rangle$	**Unfiltered θ**		**Filtered θ**		**Filtered $(\theta)^*$**	
θ_a	**Mean**	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**
(°)	**(deg)**	**(deg)**	**(deg)**	**(deg)**	**(deg)**	(1)	(1)
1.00	-1.18E-06	-1.00	1.00	-1.00	1.00	-1.00	1.00
1.75	-1.93E-06	-1.75	1.75	-1.75	1.75	-1.00	1.00
2.50	-2.91E-06	-2.50	2.50	-2.50	2.50	-1.00	1.00
3.75	1.89E-07	-3.75	3.75	-3.75	3.75	-1.00	1.00
5.00	-5.24E-06	-5.00	5.00	-5.00	5.00	-1.00	1.00

Table P–31. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NFA							
	$\langle\theta\rangle$	**Unfiltered θ**		**Filtered θ**		**Filtered $(\theta)^*$**	
θ_a (°)	**Mean (deg)**	**Min. (deg)**	**Max. (deg)**	**Min. (deg)**	**Max. (deg)**	**Min.** (1)	**Max.** (1)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–32. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NSHIPMO							
	$\langle\theta\rangle$	**Unfiltered θ**		**Filtered θ**		**Filtered $(\theta)^*$**	
θ_a (°)	**Mean (deg)**	**Min. (deg)**	**Max. (deg)**	**Min. (deg)**	**Max. (deg)**	**Min.** (1)	**Max.** (1)
1.00	4.89E-08	-1.00	1.00	-0.990	0.990	-0.990	0.990
1.75	1.87E-07	-1.75	1.75	-1.73	1.73	-0.990	0.990
2.50	2.43E-07	-2.50	2.50	-2.48	2.48	-0.990	0.990
3.75	-7.97E-08	-3.75	3.75	-3.73	3.73	-0.994	0.994
5.00	3.33E-07	-5.00	5.00	-4.98	4.98	-0.997	0.997

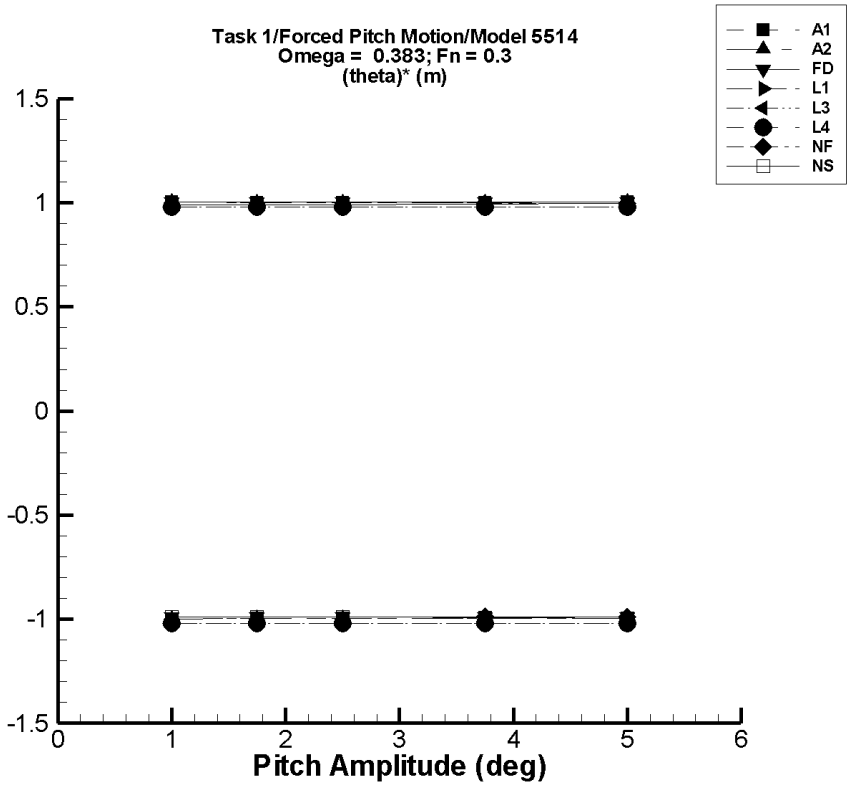

Figure P–5. Minimum and maximum of filtered $(\theta - \langle\theta\rangle)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–33. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle\theta\rangle$	**Unfiltered θ**		**Filtered θ**		**Filtered $(\theta)^*$**	
θ_a	**Mean**	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**
(°)	**(deg)**	**(deg)**	**(deg)**	**(deg)**	**(deg)**	(1)	(1)
1.00	-4.18E-08	-1.00	1.00	-0.999	1.01	-0.999	1.01
1.75	3.68E-08	-1.75	1.75	-1.74	1.75	-0.995	1.00
2.50	1.32E-07	-2.50	2.50	-2.49	2.50	-0.996	1.00
3.75	2.64E-08	-3.75	3.75	-3.73	3.76	-0.996	1.00
5.00	-6.11E-08	-5.00	5.00	-4.98	5.02	-0.997	1.00

Table P–34. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle\theta\rangle$	**Unfiltered θ**		**Filtered θ**		**Filtered $(\theta)^*$**	
θ_a	**Mean**	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**
(°)	**(deg)**	**(deg)**	**(deg)**	**(deg)**	**(deg)**	(1)	(1)
1.00	-4.18E-08	-1.00	1.00	-0.999	1.01	-0.999	1.01
1.75	3.68E-08	-1.75	1.75	-1.74	1.75	-0.995	1.00
2.50	1.32E-07	-2.50	2.50	-2.49	2.50	-0.996	1.00
3.75	2.64E-08	-3.75	3.75	-3.73	3.76	-0.996	1.00
5.00	-6.11E-08	-5.00	5.00	-4.98	5.02	-0.997	1.00

Table P–35. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle\theta\rangle$	**Unfiltered θ**		**Filtered θ**		**Filtered $(\theta)^*$**	
θ_a	**Mean**	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**
(°)	**(deg)**	**(deg)**	**(deg)**	**(deg)**	**(deg)**	(1)	(1)
1.00	-1.35E-07	-1.00	1.00	-0.996	0.996	-0.996	0.996
1.75	-1.87E-07	-1.75	1.75	-1.74	1.74	-0.996	0.996
2.50	-3.07E-07	-2.50	2.50	-2.49	2.49	-0.996	0.996
3.75	-6.55E-07	-3.75	3.75	-3.74	3.74	-0.996	0.996
5.00	-5.16E-07	-5.00	5.00	-4.98	4.98	-0.996	0.996

Table P–36. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle\theta\rangle$	**Unfiltered θ**		**Filtered θ**		**Filtered $(\theta)^*$**	
θ_a	**Mean**	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**
(°)	**(deg)**	**(deg)**	**(deg)**	**(deg)**	**(deg)**	(1)	(1)
1.00	6.15E-06	-1.00	1.00	-0.999	0.999	-0.999	0.999
1.75	1.06E-05	-1.75	1.75	-1.75	1.75	-0.999	0.999
2.50	1.51E-05	-2.50	2.50	-2.50	2.50	-0.999	0.999
3.75	3.48E-05	-3.75	3.75	-3.75	3.75	-0.999	0.999
5.00	2.99E-05	-5.00	5.00	-4.99	4.99	-0.999	0.999

Table P–37. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle\theta\rangle$	**Unfiltered θ**		**Filtered θ**		**Filtered $(\theta)^*$**	
θ_a **(°)**	**Mean (deg)**	**Min. (deg)**	**Max. (deg)**	**Min. (deg)**	**Max. (deg)**	**Min.** (1)	**Max.** (1)
1.00	6.15E-06	-1.00	1.00	-0.999	0.999	-0.999	0.999
1.75	1.06E-05	-1.75	1.75	-1.75	1.75	-0.999	0.999
2.50	1.51E-05	-2.50	2.50	-2.50	2.50	-0.999	0.999
3.75	3.48E-05	-3.75	3.75	-3.75	3.75	-0.999	0.999
5.00	2.99E-05	-5.00	5.00	-4.99	4.99	-0.999	0.999

Table P–38. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle\theta\rangle$	**Unfiltered θ**		**Filtered θ**		**Filtered $(\theta)^*$**	
θ_a **(°)**	**Mean (deg)**	**Min. (deg)**	**Max. (deg)**	**Min. (deg)**	**Max. (deg)**	**Min.** (1)	**Max.** (1)
1.00	6.15E-06	-1.00	1.00	-0.999	0.999	-0.999	0.999
1.75	1.06E-05	-1.75	1.75	-1.75	1.75	-0.999	0.999
2.50	1.51E-05	-2.50	2.50	-2.50	2.50	-0.999	0.999
3.75	3.48E-05	-3.75	3.75	-3.75	3.75	-0.999	0.999
5.00	2.99E-05	-5.00	5.00	-4.99	4.99	-0.999	0.999

Table P–39. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NFA							
	$\langle\theta\rangle$	**Unfiltered θ**		**Filtered θ**		**Filtered $(\theta)^*$**	
θ_a (°)	**Mean (deg)**	**Min. (deg)**	**Max. (deg)**	**Min. (deg)**	**Max. (deg)**	**Min.** (1)	**Max.** (1)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	-1.09E-02	-2.50	2.50	-2.48	2.49	-0.989	0.998
3.75	-1.63E-02	-3.75	3.75	-3.73	3.73	-0.989	0.998
5.00	-2.18E-02	-5.00	5.00	-4.97	4.97	-0.989	0.998

Table P–40. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NSHIPMO							
	$\langle\theta\rangle$	**Unfiltered θ**		**Filtered θ**		**Filtered $(\theta)^*$**	
θ_a (°)	**Mean (deg)**	**Min. (deg)**	**Max. (deg)**	**Min. (deg)**	**Max. (deg)**	**Min.** (1)	**Max.** (1)
1.00	-1.73E-08	-1.00	1.00	-0.990	0.990	-0.990	0.990
1.75	-2.42E-08	-1.75	1.75	-1.73	1.73	-0.990	0.990
2.50	-1.39E-07	-2.50	2.50	-2.47	2.47	-0.990	0.990
3.75	-6.09E-08	-3.75	3.75	-3.73	3.73	-0.994	0.994
5.00	-1.77E-07	-5.00	5.00	-4.98	4.98	-0.997	0.997

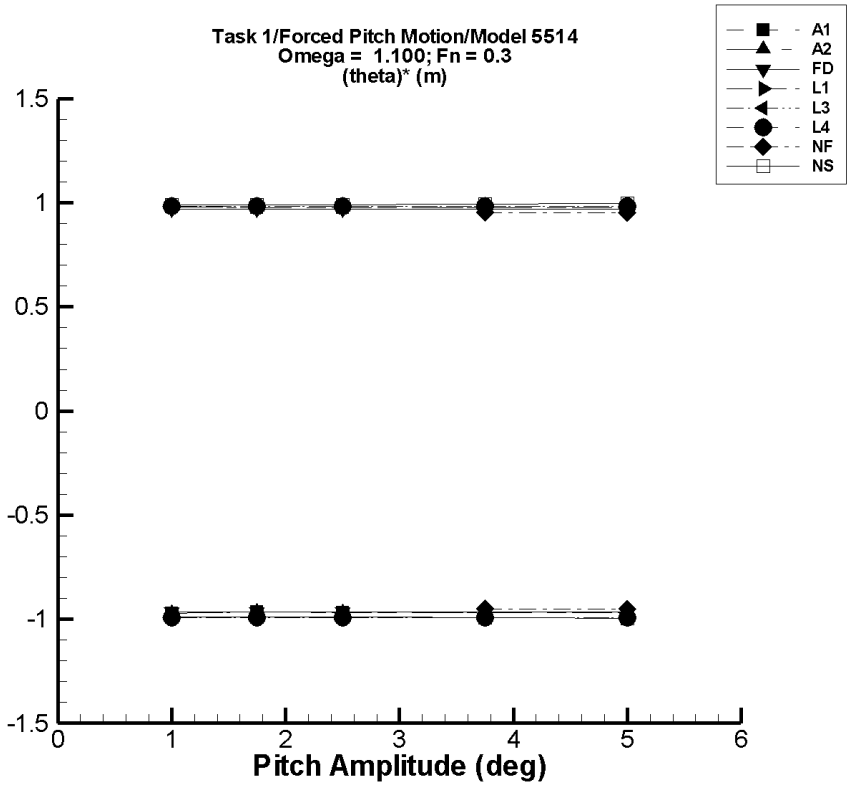

Figure P–6. Minimum and maximum of filtered $(\theta - \langle\theta\rangle)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–41. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle\theta\rangle$	**Unfiltered θ**		**Filtered θ**		**Filtered $(\theta)^*$**	
θ_a	**Mean**	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**
(°)	**(deg)**	**(deg)**	**(deg)**	**(deg)**	**(deg)**	(1)	(1)
1.00	-1.04E-06	-1.00	1.00	-0.971	0.978	-0.971	0.978
1.75	-1.85E-06	-1.75	1.75	-1.69	1.71	-0.967	0.974
2.50	-2.58E-06	-2.50	2.50	-2.42	2.44	-0.968	0.975
3.75	-4.00E-06	-3.74	3.75	-3.63	3.66	-0.968	0.975
5.00	-5.39E-06	-5.00	5.00	-4.84	4.88	-0.969	0.976

Table P–42. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle\theta\rangle$	**Unfiltered θ**		**Filtered θ**		**Filtered $(\theta)^*$**	
θ_a	**Mean**	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**
(°)	**(deg)**	**(deg)**	**(deg)**	**(deg)**	**(deg)**	(1)	(1)
1.00	-1.04E-06	-1.00	1.00	-0.971	0.978	-0.971	0.978
1.75	-1.85E-06	-1.75	1.75	-1.69	1.71	-0.967	0.974
2.50	-2.58E-06	-2.50	2.50	-2.42	2.44	-0.968	0.975
3.75	-4.00E-06	-3.74	3.75	-3.63	3.66	-0.968	0.975
5.00	-5.39E-06	-5.00	5.00	-4.84	4.88	-0.969	0.976

Table P–43. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle\theta\rangle$	Unfiltered θ		Filtered θ		Filtered $(\theta)^*$	
θ_a (°)	Mean (deg)	Min. (deg)	Max. (deg)	Min. (deg)	Max. (deg)	Min. (1)	Max. (1)
1.00	-7.48E-09	-0.999	1.00	-0.968	0.968	-0.968	0.968
1.75	-1.00E-07	-1.75	1.75	-1.69	1.69	-0.968	0.968
2.50	-1.71E-07	-2.50	2.50	-2.42	2.42	-0.968	0.968
3.75	-5.81E-07	-3.75	3.75	-3.63	3.63	-0.968	0.968
5.00	-2.50E-07	-4.99	5.00	-4.84	4.84	-0.968	0.968

Table P–44. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle\theta\rangle$	Unfiltered θ		Filtered θ		Filtered $(\theta)^*$	
θ_a (°)	Mean (deg)	Min. (deg)	Max. (deg)	Min. (deg)	Max. (deg)	Min. (1)	Max. (1)
1.00	7.07E-05	-1.00	1.00	-0.989	0.989	-0.989	0.989
1.75	1.27E-04	-1.75	1.75	-1.73	1.73	-0.989	0.989
2.50	1.78E-04	-2.50	2.50	-2.47	2.47	-0.989	0.989
3.75	2.70E-04	-3.75	3.75	-3.71	3.71	-0.989	0.989
5.00	3.56E-04	-5.00	5.00	-4.94	4.94	-0.989	0.989

Table P–45. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle\theta\rangle$	Unfiltered θ		Filtered θ		Filtered $(\theta)^*$	
θ_a (°)	Mean (deg)	Min. (deg)	Max. (deg)	Min. (deg)	Max. (deg)	Min. (1)	Max. (1)
1.00	7.07E-05	-1.00	1.00	-0.989	0.989	-0.989	0.989
1.75	1.27E-04	-1.75	1.75	-1.73	1.73	-0.989	0.989
2.50	1.78E-04	-2.50	2.50	-2.47	2.47	-0.989	0.989
3.75	2.70E-04	-3.75	3.75	-3.71	3.71	-0.989	0.989
5.00	3.56E-04	-5.00	5.00	-4.94	4.94	-0.989	0.989

Table P–46. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle\theta\rangle$	Unfiltered θ		Filtered θ		Filtered $(\theta)^*$	
θ_a (°)	Mean (deg)	Min. (deg)	Max. (deg)	Min. (deg)	Max. (deg)	Min. (1)	Max. (1)
1.00	7.07E-05	-1.00	1.00	-0.989	0.989	-0.989	0.989
1.75	1.27E-04	-1.75	1.75	-1.73	1.73	-0.989	0.989
2.50	1.78E-04	-2.50	2.50	-2.47	2.47	-0.989	0.989
3.75	2.70E-04	-3.75	3.75	-3.71	3.71	-0.989	0.989
5.00	3.56E-04	-5.00	5.00	-4.94	4.94	-0.989	0.989

Table P–47. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NFA							
	$\langle\theta\rangle$	Unfiltered θ		Filtered θ		Filtered $(\theta)^*$	
θ_a (°)	Mean (deg)	Min. (deg)	Max. (deg)	Min. (deg)	Max. (deg)	Min. (1)	Max. (1)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	4.99E-04	-2.50	2.50	-2.38	2.38	-0.950	0.952
3.75	7.48E-04	-3.75	3.75	-3.56	3.57	-0.950	0.952
5.00	9.97E-04	-5.00	4.99	-4.75	4.76	-0.950	0.952

Table P–48. Minimum and Maximum of Variables θ and $(\theta)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NSHIPMO							
	$\langle\theta\rangle$	Unfiltered θ		Filtered θ		Filtered $(\theta)^*$	
θ_a (°)	Mean (deg)	Min. (deg)	Max. (deg)	Min. (deg)	Max. (deg)	Min. (1)	Max. (1)
1.00	-4.15E-08	-1.00	1.00	-0.990	0.990	-0.990	0.990
1.75	-1.24E-07	-1.75	1.75	-1.73	1.73	-0.990	0.990
2.50	-3.02E-07	-2.50	2.50	-2.47	2.47	-0.990	0.990
3.75	-2.18E-07	-3.75	3.75	-3.73	3.73	-0.994	0.994
5.00	6.54E-07	-5.00	5.00	-4.98	4.98	-0.997	0.997

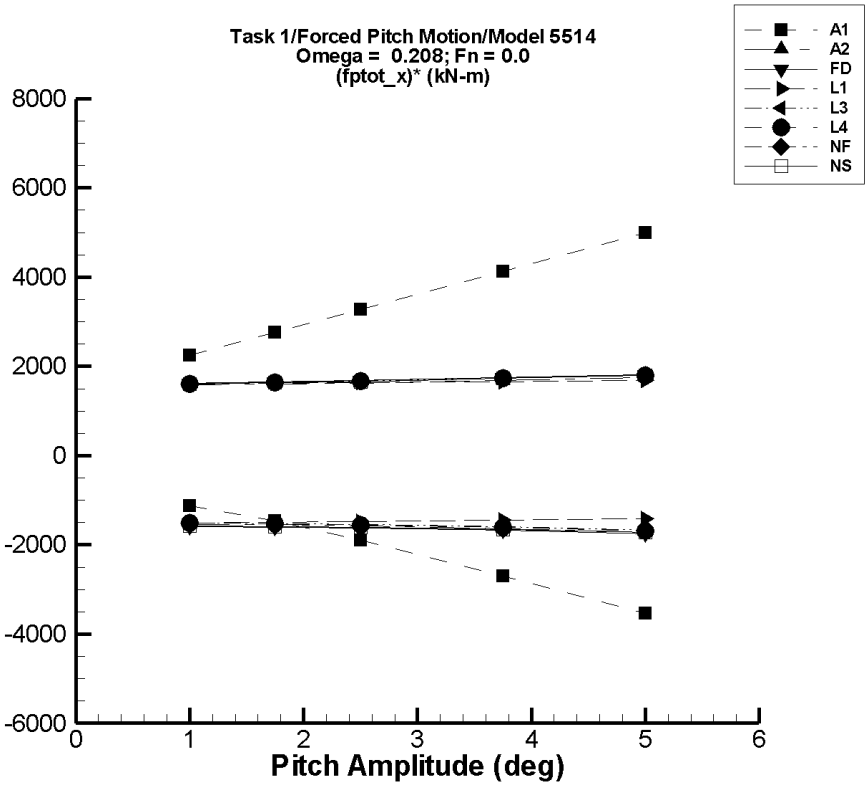

Figure P–7. Minimum and maximum of filtered $\left(F_x^{\text{ptot}} - \langle F_x^{\text{ptot}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–49. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	697.	-435.	2.95E+03	-433.	2.95E+03	-1.13E+03	2.25E+03
1.75	2.12E+03	-445.	6.95E+03	-430.	6.94E+03	-1.46E+03	2.75E+03
2.50	4.33E+03	-453.	1.25E+04	-420.	1.25E+04	-1.90E+03	3.27E+03
3.75	9.74E+03	-439.	2.53E+04	-397.	2.52E+04	-2.70E+03	4.13E+03
5.00	1.73E+04	-440.	4.24E+04	-365.	4.23E+04	-3.54E+03	5.00E+03

Table P–50. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	61.4	-1.49E+03	1.65E+03	-1.49E+03	1.65E+03	-1.55E+03	1.59E+03
1.75	86.6	-2.61E+03	2.89E+03	-2.61E+03	2.89E+03	-1.54E+03	1.60E+03
2.50	131.	-3.81E+03	4.20E+03	-3.81E+03	4.19E+03	-1.58E+03	1.63E+03
3.75	185.	-5.94E+03	6.54E+03	-5.95E+03	6.53E+03	-1.63E+03	1.69E+03
5.00	256.	-8.33E+03	9.02E+03	-8.32E+03	9.00E+03	-1.72E+03	1.75E+03

Table P–51. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	-4.03	-1.60E+03	1.63E+03	-1.60E+03	1.62E+03	-1.59E+03	1.63E+03
1.75	27.8	-2.78E+03	2.92E+03	-2.78E+03	2.92E+03	-1.60E+03	1.65E+03
2.50	70.7	-3.99E+03	4.29E+03	-3.99E+03	4.28E+03	-1.62E+03	1.69E+03
3.75	159.	-6.14E+03	6.75E+03	-6.13E+03	6.74E+03	-1.68E+03	1.75E+03
5.00	240.	-8.54E+03	9.28E+03	-8.53E+03	9.27E+03	-1.75E+03	1.81E+03

Table P–52. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	19.4	-1.51E+03	1.59E+03	-1.51E+03	1.59E+03	-1.53E+03	1.57E+03
1.75	59.4	-2.60E+03	2.84E+03	-2.60E+03	2.84E+03	-1.52E+03	1.59E+03
2.50	121.	-3.64E+03	4.12E+03	-3.64E+03	4.12E+03	-1.50E+03	1.60E+03
3.75	273.	-5.28E+03	6.36E+03	-5.27E+03	6.36E+03	-1.48E+03	1.62E+03
5.00	484.	-6.79E+03	8.72E+03	-6.79E+03	8.72E+03	-1.45E+03	1.65E+03

Table P–53. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle F_x^{\text{ptot}} \rangle$	Unfiltered F_x^{ptot}		Filtered F_x^{ptot}		Filtered $\left(F_x^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	2.73	-1.54E+03	1.58E+03	-1.54E+03	1.58E+03	-1.54E+03	1.58E+03
1.75	37.6	-2.68E+03	2.85E+03	-2.68E+03	2.85E+03	-1.55E+03	1.61E+03
2.50	85.4	-3.85E+03	4.19E+03	-3.84E+03	4.19E+03	-1.57E+03	1.64E+03
3.75	186.	-5.92E+03	6.61E+03	-5.92E+03	6.60E+03	-1.63E+03	1.71E+03
5.00	286.	-8.23E+03	9.12E+03	-8.22E+03	9.12E+03	-1.70E+03	1.77E+03

Table P–54. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle F_x^{\text{ptot}} \rangle$	Unfiltered F_x^{ptot}		Filtered F_x^{ptot}		Filtered $\left(F_x^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	1.83	-1.55E+03	1.58E+03	-1.55E+03	1.58E+03	-1.55E+03	1.58E+03
1.75	35.1	-2.70E+03	2.84E+03	-2.70E+03	2.84E+03	-1.56E+03	1.60E+03
2.50	80.8	-3.88E+03	4.18E+03	-3.88E+03	4.18E+03	-1.59E+03	1.64E+03
3.75	177.	-6.00E+03	6.59E+03	-6.00E+03	6.59E+03	-1.65E+03	1.71E+03
5.00	275.	-8.36E+03	9.12E+03	-8.36E+03	9.12E+03	-1.73E+03	1.77E+03

Table P–55. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NFA							
θ_a (°)	$\langle F_x^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_x^{ptot} Min. (kN)	Unfiltered F_x^{ptot} Max. (kN)	Filtered F_x^{ptot} Min. (kN)	Filtered F_x^{ptot} Max. (kN)	Filtered $\left(F_x^{\text{ptot}}\right)^*$ Min. (kN/°)	Filtered $\left(F_x^{\text{ptot}}\right)^*$ Max. (kN/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–56. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NSHIPMO							
θ_a (°)	$\langle F_x^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_x^{ptot} Min. (kN)	Unfiltered F_x^{ptot} Max. (kN)	Filtered F_x^{ptot} Min. (kN)	Filtered F_x^{ptot} Max. (kN)	Filtered $\left(F_x^{\text{ptot}}\right)^*$ Min. (kN/°)	Filtered $\left(F_x^{\text{ptot}}\right)^*$ Max. (kN/°)
1.00	14.6	-1.58E+03	1.64E+03	-1.57E+03	1.62E+03	-1.58E+03	1.61E+03
1.75	43.1	-2.76E+03	2.93E+03	-2.73E+03	2.90E+03	-1.59E+03	1.63E+03
2.50	82.0	-3.96E+03	4.28E+03	-3.92E+03	4.23E+03	-1.60E+03	1.66E+03
3.75	164.	-6.06E+03	6.68E+03	-6.02E+03	6.63E+03	-1.65E+03	1.73E+03
5.00	260.	-8.35E+03	9.31E+03	-8.32E+03	9.28E+03	-1.72E+03	1.80E+03

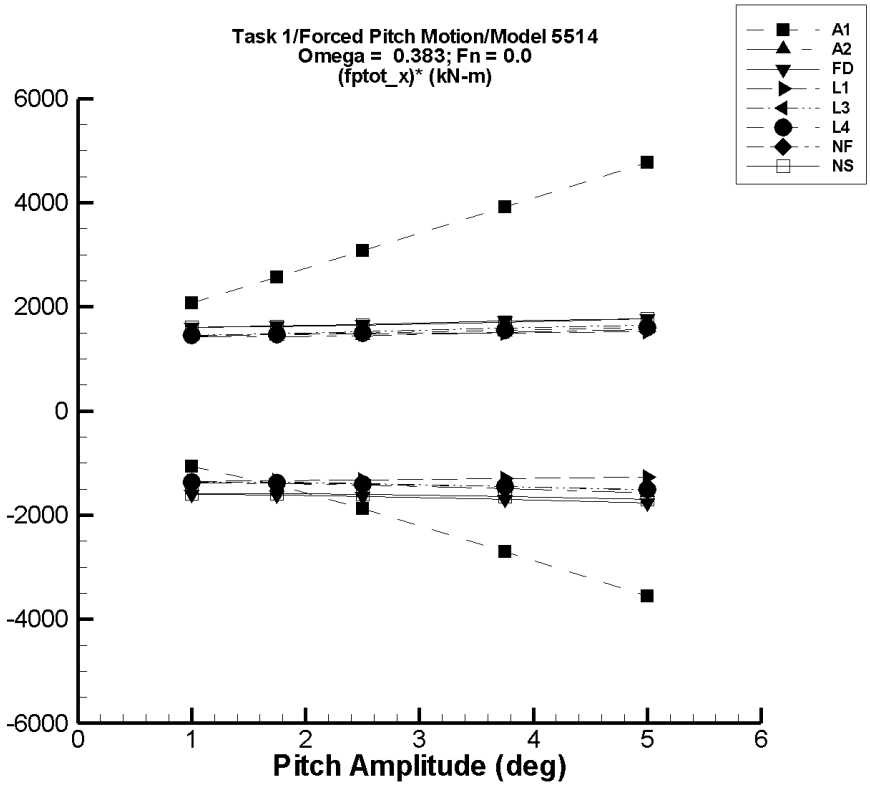

Figure P–8. Minimum and maximum of filtered $\left(F_x^{\text{ptot}} - \langle F_x^{\text{ptot}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–57. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	693.	-384.	2.78E+03	-377.	2.76E+03	-1.07E+03	2.07E+03
1.75	2.10E+03	-420.	6.63E+03	-388.	6.59E+03	-1.42E+03	2.56E+03
2.50	4.30E+03	-454.	1.21E+04	-384.	1.20E+04	-1.87E+03	3.07E+03
3.75	9.67E+03	-502.	2.45E+04	-471.	2.44E+04	-2.70E+03	3.92E+03
5.00	1.72E+04	-555.	4.14E+04	-600.	4.11E+04	-3.56E+03	4.77E+03

Table P–58. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	42.0	-2.36E+03	1.47E+03	-1.35E+03	1.47E+03	-1.39E+03	1.43E+03
1.75	80.5	-2.36E+03	2.57E+03	-2.36E+03	2.56E+03	-1.40E+03	1.42E+03
2.50	101.	-3.47E+03	3.73E+03	-3.47E+03	3.71E+03	-1.43E+03	1.44E+03
3.75	125.	-5.47E+03	5.79E+03	-5.49E+03	5.76E+03	-1.50E+03	1.50E+03
5.00	133.	-7.76E+03	7.95E+03	-7.77E+03	7.92E+03	-1.58E+03	1.56E+03

Table P–59. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	-5.90	-1.60E+03	1.62E+03	-1.60E+03	1.62E+03	-1.59E+03	1.62E+03
1.75	22.1	-2.79E+03	2.91E+03	-2.78E+03	2.90E+03	-1.60E+03	1.65E+03
2.50	59.3	-4.01E+03	4.27E+03	-4.00E+03	4.25E+03	-1.62E+03	1.68E+03
3.75	133.	-6.19E+03	6.69E+03	-6.17E+03	6.66E+03	-1.68E+03	1.74E+03
5.00	195.	-8.63E+03	9.19E+03	-8.60E+03	9.15E+03	-1.76E+03	1.79E+03

Table P–60. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	19.2	-1.36E+03	1.44E+03	-1.36E+03	1.44E+03	-1.38E+03	1.42E+03
1.75	58.7	-2.34E+03	2.57E+03	-2.33E+03	2.57E+03	-1.37E+03	1.43E+03
2.50	120.	-3.27E+03	3.75E+03	-3.26E+03	3.74E+03	-1.35E+03	1.45E+03
3.75	269.	-4.71E+03	5.80E+03	-4.71E+03	5.79E+03	-1.33E+03	1.47E+03
5.00	479.	-6.04E+03	7.97E+03	-6.03E+03	7.96E+03	-1.30E+03	1.50E+03

Table P–61. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	2.47	-1.39E+03	1.43E+03	-1.39E+03	1.43E+03	-1.39E+03	1.43E+03
1.75	36.8	-2.42E+03	2.59E+03	-2.41E+03	2.58E+03	-1.40E+03	1.46E+03
2.50	83.8	-3.47E+03	3.81E+03	-3.47E+03	3.81E+03	-1.42E+03	1.49E+03
3.75	182.	-5.36E+03	6.04E+03	-5.35E+03	6.03E+03	-1.47E+03	1.56E+03
5.00	279.	-7.48E+03	8.37E+03	-7.46E+03	8.36E+03	-1.55E+03	1.62E+03

Table P–62. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	-3.33	-1.40E+03	1.42E+03	-1.40E+03	1.42E+03	-1.40E+03	1.42E+03
1.75	20.7	-2.45E+03	2.55E+03	-2.45E+03	2.55E+03	-1.41E+03	1.44E+03
2.50	54.5	-3.53E+03	3.74E+03	-3.52E+03	3.74E+03	-1.43E+03	1.47E+03
3.75	127.	-5.42E+03	5.86E+03	-5.41E+03	5.85E+03	-1.48E+03	1.53E+03
5.00	206.	-7.49E+03	8.07E+03	-7.48E+03	8.06E+03	-1.54E+03	1.57E+03

Table P–63. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NFA							
	$\langle F_x^{\text{ptot}} \rangle$	Unfiltered F_x^{ptot}		Filtered F_x^{ptot}		Filtered $\left(F_x^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–64. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NSHIPMO							
	$\langle F_x^{\text{ptot}} \rangle$	Unfiltered F_x^{ptot}		Filtered F_x^{ptot}		Filtered $\left(F_x^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	12.7	-1.58E+03	1.64E+03	-1.57E+03	1.62E+03	-1.58E+03	1.61E+03
1.75	37.8	-2.76E+03	2.91E+03	-2.73E+03	2.88E+03	-1.58E+03	1.62E+03
2.50	72.1	-3.96E+03	4.24E+03	-3.92E+03	4.20E+03	-1.60E+03	1.65E+03
3.75	144.	-6.04E+03	6.59E+03	-6.00E+03	6.55E+03	-1.64E+03	1.71E+03
5.00	229.	-8.29E+03	9.15E+03	-8.26E+03	9.11E+03	-1.70E+03	1.78E+03

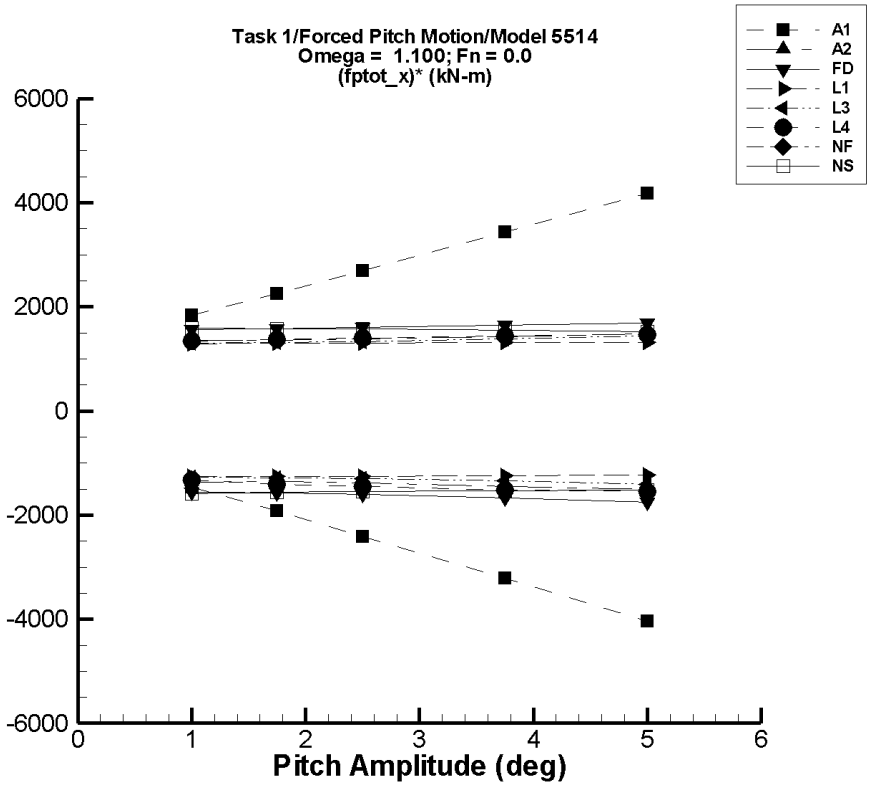

Figure P–9. Minimum and maximum of filtered $\left(F_x^{\text{ptot}} - \langle F_x^{\text{ptot}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–65. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle \boldsymbol{F_x^{\text{ptot}}} \rangle$	**Unfiltered** $\boldsymbol{F_x^{\text{ptot}}}$		**Filtered** $\boldsymbol{F_x^{\text{ptot}}}$		**Filtered** $\left(\boldsymbol{F_x^{\text{ptot}}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	686.	-854.	2.64E+03	-770.	2.52E+03	-1.46E+03	1.84E+03
1.75	2.08E+03	-1.35E+03	6.34E+03	-1.27E+03	6.02E+03	-1.92E+03	2.25E+03
2.50	4.26E+03	-1.83E+03	1.16E+04	-1.76E+03	1.10E+04	-2.41E+03	2.70E+03
3.75	9.58E+03	-2.63E+03	2.38E+04	-2.48E+03	2.25E+04	-3.22E+03	3.44E+03
5.00	1.71E+04	-3.37E+03	4.02E+04	-3.11E+03	3.80E+04	-4.04E+03	4.18E+03

Table P–66. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle \boldsymbol{F_x^{\text{ptot}}} \rangle$	**Unfiltered** $\boldsymbol{F_x^{\text{ptot}}}$		**Filtered** $\boldsymbol{F_x^{\text{ptot}}}$		**Filtered** $\left(\boldsymbol{F_x^{\text{ptot}}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	49.9	-1.38E+03	1.45E+03	-1.31E+03	1.41E+03	-1.36E+03	1.36E+03
1.75	61.1	-2.43E+03	2.52E+03	-2.32E+03	2.45E+03	-1.36E+03	1.36E+03
2.50	62.4	-3.56E+03	3.63E+03	-3.39E+03	3.52E+03	-1.38E+03	1.38E+03
3.75	38.7	-5.61E+03	5.56E+03	-5.37E+03	5.38E+03	-1.44E+03	1.43E+03
5.00	-37.8	-7.88E+03	7.63E+03	-7.57E+03	7.37E+03	-1.51E+03	1.48E+03

Table P–67. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	-17.1	-1.63E+03	1.60E+03	-1.58E+03	1.55E+03	-1.56E+03	1.57E+03
1.75	-12.2	-2.86E+03	2.84E+03	-2.77E+03	2.75E+03	-1.57E+03	1.58E+03
2.50	-10.9	-4.15E+03	4.13E+03	-4.01E+03	4.00E+03	-1.60E+03	1.60E+03
3.75	-24.4	-6.51E+03	6.39E+03	-6.27E+03	6.17E+03	-1.67E+03	1.65E+03
5.00	-86.1	-9.21E+03	8.66E+03	-8.84E+03	8.40E+03	-1.75E+03	1.70E+03

Table P–68. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	25.7	-1.26E+03	1.32E+03	-1.24E+03	1.31E+03	-1.27E+03	1.28E+03
1.75	78.2	-2.16E+03	2.36E+03	-2.13E+03	2.34E+03	-1.26E+03	1.29E+03
2.50	159.	-3.02E+03	3.44E+03	-2.99E+03	3.40E+03	-1.26E+03	1.30E+03
3.75	357.	-4.38E+03	5.31E+03	-4.33E+03	5.25E+03	-1.25E+03	1.30E+03
5.00	634.	-5.64E+03	7.28E+03	-5.58E+03	7.20E+03	-1.24E+03	1.31E+03

Table P–69. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	9.04	-1.28E+03	1.31E+03	-1.27E+03	1.30E+03	-1.28E+03	1.29E+03
1.75	56.4	-2.22E+03	2.37E+03	-2.19E+03	2.34E+03	-1.29E+03	1.31E+03
2.50	123.	-3.17E+03	3.48E+03	-3.13E+03	3.44E+03	-1.30E+03	1.33E+03
3.75	270.	-4.85E+03	5.49E+03	-4.79E+03	5.43E+03	-1.35E+03	1.37E+03
5.00	435.	-6.72E+03	7.67E+03	-6.64E+03	7.57E+03	-1.41E+03	1.43E+03

Table P–70. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	-0.497	-1.39E+03	1.36E+03	-1.34E+03	1.33E+03	-1.34E+03	1.33E+03
1.75	30.3	-2.49E+03	2.47E+03	-2.44E+03	2.42E+03	-1.41E+03	1.37E+03
2.50	70.7	-3.62E+03	3.64E+03	-3.56E+03	3.57E+03	-1.45E+03	1.40E+03
3.75	149.	-5.74E+03	5.68E+03	-5.55E+03	5.56E+03	-1.52E+03	1.44E+03
5.00	159.	-7.80E+03	7.75E+03	-7.60E+03	7.53E+03	-1.55E+03	1.47E+03

Table P–71. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NFA							
θ_a (°)	$\langle F_x^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_x^{ptot} Min. (kN)	Unfiltered F_x^{ptot} Max. (kN)	Filtered F_x^{ptot} Min. (kN)	Filtered F_x^{ptot} Max. (kN)	Filtered $\left(F_x^{\text{ptot}}\right)^*$ Min. (kN/°)	Filtered $\left(F_x^{\text{ptot}}\right)^*$ Max. (kN/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–72. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NSHIPMO							
θ_a (°)	$\langle F_x^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_x^{ptot} Min. (kN)	Unfiltered F_x^{ptot} Max. (kN)	Filtered F_x^{ptot} Min. (kN)	Filtered F_x^{ptot} Max. (kN)	Filtered $\left(F_x^{\text{ptot}}\right)^*$ Min. (kN/°)	Filtered $\left(F_x^{\text{ptot}}\right)^*$ Max. (kN/°)
1.00	3.05	-1.59E+03	1.61E+03	-1.58E+03	1.59E+03	-1.58E+03	1.59E+03
1.75	10.1	-2.76E+03	2.81E+03	-2.73E+03	2.78E+03	-1.57E+03	1.58E+03
2.50	18.5	-3.90E+03	3.99E+03	-3.86E+03	3.95E+03	-1.55E+03	1.57E+03
3.75	21.2	-5.78E+03	5.87E+03	-5.75E+03	5.84E+03	-1.54E+03	1.55E+03
5.00	1.54	-7.62E+03	7.64E+03	-7.60E+03	7.62E+03	-1.52E+03	1.52E+03

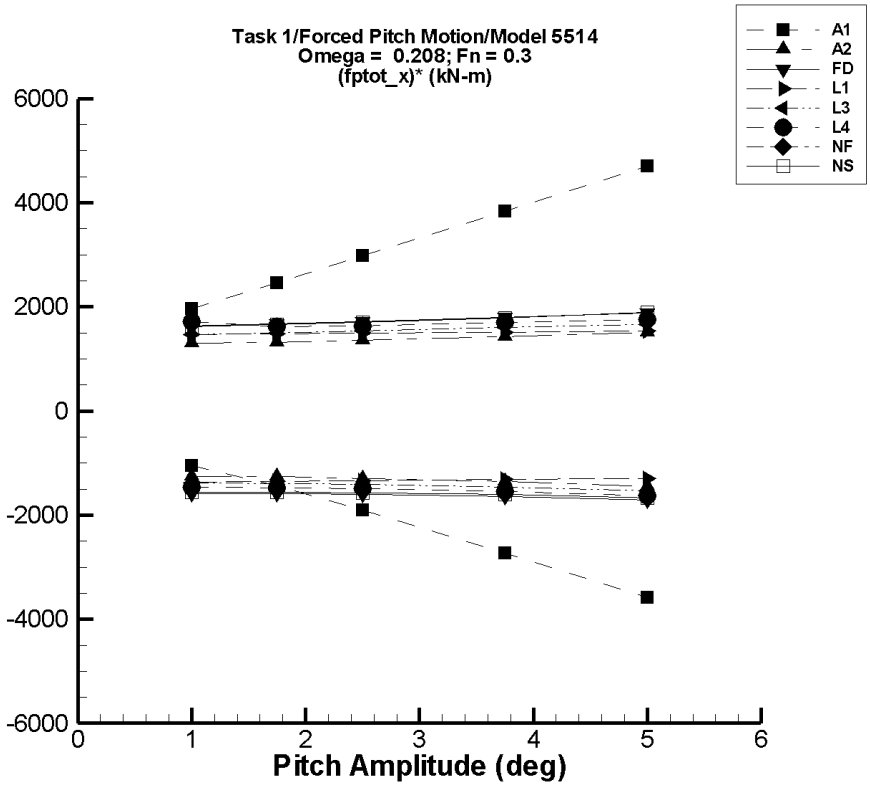

Figure P–10. Minimum and maximum of filtered $\left(F_x^{\text{ptot}} - \langle F_x^{\text{ptot}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–73. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	694.	-358.	2.66E+03	-355.	2.65E+03	-1.05E+03	1.96E+03
1.75	2.11E+03	-422.	6.43E+03	-409.	6.42E+03	-1.44E+03	2.46E+03
2.50	4.31E+03	-480.	1.18E+04	-461.	1.18E+04	-1.91E+03	2.98E+03
3.75	9.69E+03	-583.	2.41E+04	-540.	2.41E+04	-2.73E+03	3.84E+03
5.00	1.73E+04	-689.	4.09E+04	-683.	4.08E+04	-3.59E+03	4.70E+03

Table P–74. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	57.6	-1.20E+03	1.36E+03	-1.20E+03	1.36E+03	-1.26E+03	1.30E+03
1.75	76.6	-2.33E+03	2.40E+03	-2.12E+03	2.39E+03	-1.25E+03	1.32E+03
2.50	111.	-3.12E+03	3.52E+03	-3.12E+03	3.49E+03	-1.29E+03	1.35E+03
3.75	143.	-4.97E+03	5.56E+03	-4.96E+03	5.51E+03	-1.36E+03	1.43E+03
5.00	183.	-7.10E+03	7.83E+03	-7.09E+03	7.73E+03	-1.45E+03	1.51E+03

Table P–75. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	7.63	-1.58E+03	1.65E+03	-1.58E+03	1.65E+03	-1.58E+03	1.64E+03
1.75	63.5	-2.71E+03	3.00E+03	-2.71E+03	2.99E+03	-1.58E+03	1.67E+03
2.50	144.	-3.85E+03	4.44E+03	-3.85E+03	4.44E+03	-1.60E+03	1.72E+03
3.75	323.	-5.84E+03	7.09E+03	-5.83E+03	7.09E+03	-1.64E+03	1.80E+03
5.00	531.	-8.01E+03	9.90E+03	-8.00E+03	9.92E+03	-1.71E+03	1.88E+03

Table P–76. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	-312.	-1.71E+03	1.12E+03	-1.71E+03	1.12E+03	-1.40E+03	1.43E+03
1.75	-272.	-2.70E+03	2.26E+03	-2.69E+03	2.26E+03	-1.38E+03	1.45E+03
2.50	-209.	-3.64E+03	3.45E+03	-3.64E+03	3.45E+03	-1.37E+03	1.46E+03
3.75	-56.3	-5.11E+03	5.51E+03	-5.11E+03	5.51E+03	-1.35E+03	1.48E+03
5.00	158.	-6.46E+03	7.69E+03	-6.46E+03	7.69E+03	-1.32E+03	1.51E+03

Table P–77. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-3							
		Unfiltered $\boldsymbol{F_x^{\text{ptot}}}$		**Filtered** $\boldsymbol{F_x^{\text{ptot}}}$		**Filtered** $\boldsymbol{\left(F_x^{\text{ptot}}\right)^*}$	
$\boldsymbol{\theta_a}$ **(°)**	$\boldsymbol{\langle F_x^{\text{ptot}} \rangle}$ **Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	-329.	-1.74E+03	1.11E+03	-1.74E+03	1.11E+03	-1.41E+03	1.44E+03
1.75	-294.	-2.78E+03	2.28E+03	-2.77E+03	2.28E+03	-1.42E+03	1.47E+03
2.50	-245.	-3.84E+03	3.51E+03	-3.84E+03	3.51E+03	-1.44E+03	1.50E+03
3.75	-143.	-5.74E+03	5.75E+03	-5.74E+03	5.75E+03	-1.49E+03	1.57E+03
5.00	-41.0	-7.88E+03	8.09E+03	-7.88E+03	8.09E+03	-1.57E+03	1.63E+03

Table P–78. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-4							
		Unfiltered $\boldsymbol{F_x^{\text{ptot}}}$		**Filtered** $\boldsymbol{F_x^{\text{ptot}}}$		**Filtered** $\boldsymbol{\left(F_x^{\text{ptot}}\right)^*}$	
$\boldsymbol{\theta_a}$ **(°)**	$\boldsymbol{\langle F_x^{\text{ptot}} \rangle}$ **Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	-312.	-1.80E+03	1.39E+03	-1.80E+03	1.38E+03	-1.49E+03	1.69E+03
1.75	-283.	-2.92E+03	2.50E+03	-2.92E+03	2.49E+03	-1.50E+03	1.59E+03
2.50	-236.	-4.06E+03	3.86E+03	-4.05E+03	3.79E+03	-1.52E+03	1.61E+03
3.75	-161.	-6.11E+03	6.19E+03	-6.09E+03	6.10E+03	-1.58E+03	1.67E+03
5.00	-84.3	-8.41E+03	8.68E+03	-8.40E+03	8.57E+03	-1.66E+03	1.73E+03

Table P–79. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NFA							
θ_a (°)	$\langle F_x^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_x^{ptot} Min. (kN)	Unfiltered F_x^{ptot} Max. (kN)	Filtered F_x^{ptot} Min. (kN)	Filtered F_x^{ptot} Max. (kN)	Filtered $\left(F_x^{\text{ptot}}\right)^*$ Min. (kN/°)	Filtered $\left(F_x^{\text{ptot}}\right)^*$ Max. (kN/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–80. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NSHIPMO							
θ_a (°)	$\langle F_x^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_x^{ptot} Min. (kN)	Unfiltered F_x^{ptot} Max. (kN)	Filtered F_x^{ptot} Min. (kN)	Filtered F_x^{ptot} Max. (kN)	Filtered $\left(F_x^{\text{ptot}}\right)^*$ Min. (kN/°)	Filtered $\left(F_x^{\text{ptot}}\right)^*$ Max. (kN/°)
1.00	29.6	-1.55E+03	1.67E+03	-1.54E+03	1.65E+03	-1.57E+03	1.62E+03
1.75	87.8	-2.67E+03	3.02E+03	-2.64E+03	2.99E+03	-1.56E+03	1.66E+03
2.50	172.	-3.79E+03	4.47E+03	-3.76E+03	4.42E+03	-1.57E+03	1.70E+03
3.75	359.	-5.70E+03	7.13E+03	-5.67E+03	7.08E+03	-1.61E+03	1.79E+03
5.00	591.	-7.76E+03	1.01E+04	-7.73E+03	1.00E+04	-1.66E+03	1.89E+03

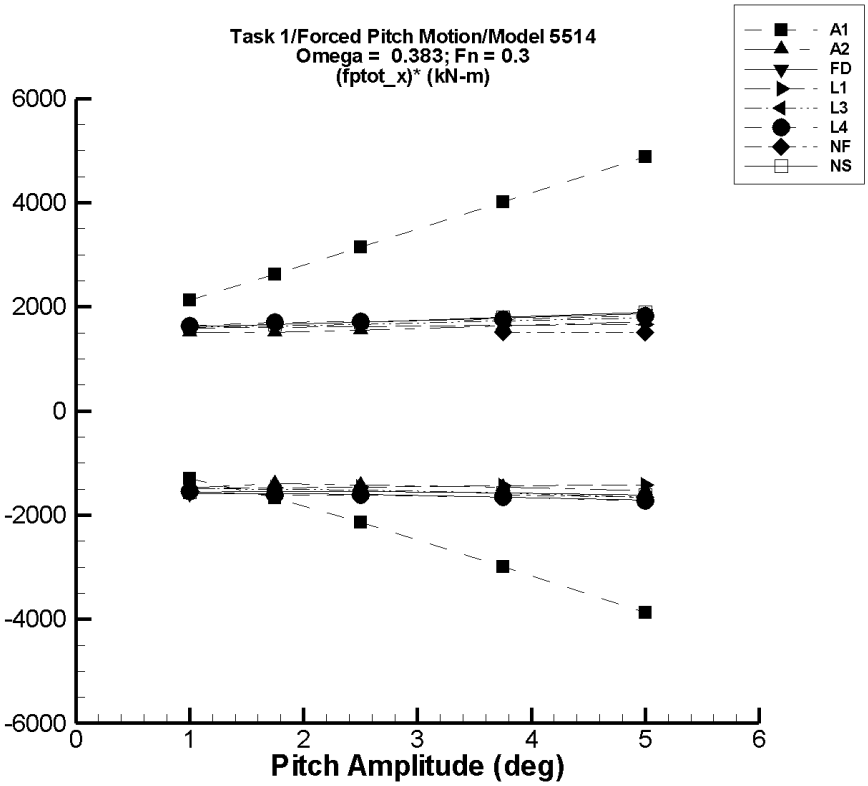

Figure P–11. Minimum and maximum of filtered $\left(F_x^{\text{ptot}} - \langle F_x^{\text{ptot}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–81. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	709.	-596.	2.85E+03	-587.	2.83E+03	-1.30E+03	2.12E+03
1.75	2.15E+03	-810.	6.79E+03	-773.	6.75E+03	-1.67E+03	2.63E+03
2.50	4.40E+03	-1.02E+03	1.23E+04	-949.	1.23E+04	-2.14E+03	3.15E+03
3.75	9.88E+03	-1.36E+03	2.51E+04	-1.35E+03	2.49E+04	-3.00E+03	4.01E+03
5.00	1.76E+04	-1.69E+03	4.23E+04	-1.76E+03	4.20E+04	-3.87E+03	4.88E+03

Table P–82. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	58.2	-2.48E+03	1.57E+03	-1.42E+03	1.56E+03	-1.48E+03	1.50E+03
1.75	128.	-2.37E+03	2.79E+03	-2.33E+03	2.78E+03	-1.40E+03	1.51E+03
2.50	198.	-3.39E+03	4.10E+03	-3.36E+03	4.08E+03	-1.42E+03	1.55E+03
3.75	340.	-5.17E+03	6.50E+03	-5.17E+03	6.47E+03	-1.47E+03	1.64E+03
5.00	514.	-7.14E+03	9.16E+03	-7.15E+03	9.12E+03	-1.53E+03	1.72E+03

Table P–83. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	7.86	-1.58E+03	1.65E+03	-1.57E+03	1.64E+03	-1.58E+03	1.64E+03
1.75	64.3	-2.71E+03	3.00E+03	-2.70E+03	2.99E+03	-1.58E+03	1.67E+03
2.50	145.	-3.86E+03	4.45E+03	-3.84E+03	4.43E+03	-1.59E+03	1.71E+03
3.75	327.	-5.85E+03	7.11E+03	-5.82E+03	7.08E+03	-1.64E+03	1.80E+03
5.00	539.	-8.03E+03	9.95E+03	-8.00E+03	9.91E+03	-1.71E+03	1.87E+03

Table P–84. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	-311.	-1.84E+03	1.25E+03	-1.84E+03	1.25E+03	-1.52E+03	1.56E+03
1.75	-269.	-2.92E+03	2.48E+03	-2.92E+03	2.48E+03	-1.51E+03	1.57E+03
2.50	-203.	-3.96E+03	3.76E+03	-3.95E+03	3.75E+03	-1.50E+03	1.58E+03
3.75	-42.7	-5.60E+03	5.98E+03	-5.59E+03	5.97E+03	-1.48E+03	1.60E+03
5.00	182.	-7.12E+03	8.31E+03	-7.11E+03	8.30E+03	-1.46E+03	1.62E+03

Table P–85. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle F_x^{\text{ptot}} \rangle$	Unfiltered F_x^{ptot}		Filtered F_x^{ptot}		Filtered $\left(F_x^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-328.	-1.87E+03	1.24E+03	-1.86E+03	1.24E+03	-1.53E+03	1.57E+03
1.75	-291.	-3.00E+03	2.50E+03	-2.99E+03	2.49E+03	-1.54E+03	1.59E+03
2.50	-239.	-4.15E+03	3.82E+03	-4.15E+03	3.82E+03	-1.56E+03	1.62E+03
3.75	-130.	-6.21E+03	6.21E+03	-6.20E+03	6.20E+03	-1.62E+03	1.69E+03
5.00	-17.9	-8.50E+03	8.71E+03	-8.49E+03	8.70E+03	-1.69E+03	1.74E+03

Table P–86. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle F_x^{\text{ptot}} \rangle$	Unfiltered F_x^{ptot}		Filtered F_x^{ptot}		Filtered $\left(F_x^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-296.	-1.94E+03	1.63E+03	-1.88E+03	1.30E+03	-1.59E+03	1.59E+03
1.75	-262.	-3.17E+03	2.76E+03	-3.15E+03	2.64E+03	-1.65E+03	1.66E+03
2.50	-212.	-4.37E+03	4.10E+03	-4.34E+03	3.97E+03	-1.65E+03	1.67E+03
3.75	-107.	-6.53E+03	6.33E+03	-6.48E+03	6.31E+03	-1.70E+03	1.71E+03
5.00	-8.46	-8.88E+03	9.12E+03	-8.87E+03	8.92E+03	-1.77E+03	1.79E+03

Table P–87. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NFA							
	$\langle \boldsymbol{F_x^{\text{ptot}}} \rangle$	**Unfiltered** $\boldsymbol{F_x^{\text{ptot}}}$		**Filtered** $\boldsymbol{F_x^{\text{ptot}}}$		**Filtered** $\left(\boldsymbol{F_x^{\text{ptot}}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	-506.	-4.52E+03	3.36E+03	-4.49E+03	3.30E+03	-1.59E+03	1.52E+03
3.75	-640.	-6.71E+03	5.06E+03	-6.67E+03	5.01E+03	-1.61E+03	1.51E+03
5.00	-820.	-9.13E+03	6.75E+03	-9.08E+03	6.71E+03	-1.65E+03	1.51E+03

Table P–88. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NSHIPMO							
	$\langle \boldsymbol{F_x^{\text{ptot}}} \rangle$	**Unfiltered** $\boldsymbol{F_x^{\text{ptot}}}$		**Filtered** $\boldsymbol{F_x^{\text{ptot}}}$		**Filtered** $\left(\boldsymbol{F_x^{\text{ptot}}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	34.3	-1.54E+03	1.68E+03	-1.53E+03	1.66E+03	-1.56E+03	1.63E+03
1.75	103.	-2.63E+03	3.05E+03	-2.61E+03	3.01E+03	-1.55E+03	1.66E+03
2.50	203.	-3.71E+03	4.52E+03	-3.68E+03	4.47E+03	-1.55E+03	1.71E+03
3.75	427.	-5.51E+03	7.22E+03	-5.48E+03	7.17E+03	-1.57E+03	1.80E+03
5.00	716.	-7.38E+03	1.02E+04	-7.36E+03	1.02E+04	-1.61E+03	1.90E+03

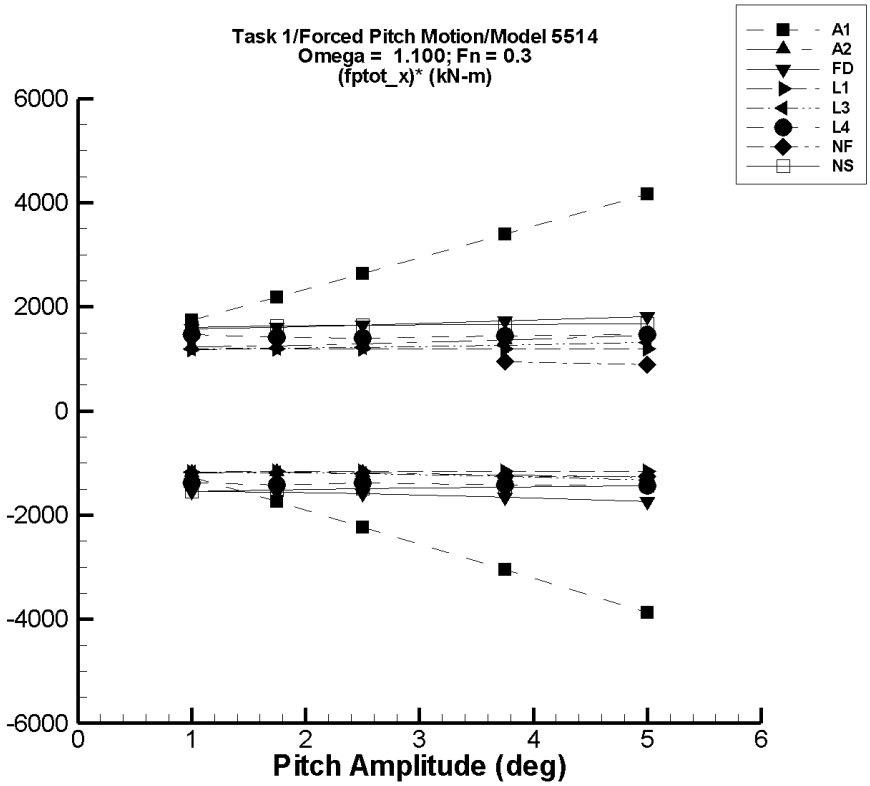

Figure P–12. Minimum and maximum of filtered $\left(F_x^{\text{ptot}} - \langle F_x^{\text{ptot}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–89. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	693.	-662.	2.56E+03	-581.	2.44E+03	-1.27E+03	1.75E+03
1.75	2.11E+03	-1.01E+03	6.26E+03	-944.	5.93E+03	-1.74E+03	2.18E+03
2.50	4.32E+03	-1.37E+03	1.15E+04	-1.28E+03	1.09E+04	-2.24E+03	2.64E+03
3.75	9.71E+03	-1.93E+03	2.38E+04	-1.73E+03	2.25E+04	-3.05E+03	3.40E+03
5.00	1.73E+04	-2.47E+03	4.04E+04	-2.07E+03	3.81E+04	-3.88E+03	4.16E+03

Table P–90. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	56.5	-1.16E+03	1.33E+03	-1.13E+03	1.29E+03	-1.19E+03	1.23E+03
1.75	86.2	-2.03E+03	2.36E+03	-1.97E+03	2.28E+03	-1.17E+03	1.25E+03
2.50	118.	-2.95E+03	3.46E+03	-2.85E+03	3.34E+03	-1.19E+03	1.29E+03
3.75	170.	-4.59E+03	5.49E+03	-4.43E+03	5.28E+03	-1.23E+03	1.36E+03
5.00	203.	-6.40E+03	7.77E+03	-6.14E+03	7.45E+03	-1.27E+03	1.45E+03

Table P–91. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-1.20	-1.60E+03	1.64E+03	-1.55E+03	1.58E+03	-1.55E+03	1.58E+03
1.75	36.5	-2.78E+03	2.96E+03	-2.69E+03	2.86E+03	-1.56E+03	1.61E+03
2.50	88.4	-4.01E+03	4.37E+03	-3.87E+03	4.22E+03	-1.58E+03	1.65E+03
3.75	199.	-6.24E+03	6.98E+03	-6.00E+03	6.71E+03	-1.65E+03	1.74E+03
5.00	311.	-8.76E+03	9.79E+03	-8.40E+03	9.39E+03	-1.74E+03	1.82E+03

Table P–92. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-301.	-1.49E+03	890.	-1.48E+03	877.	-1.17E+03	1.18E+03
1.75	-239.	-2.32E+03	1.85E+03	-2.29E+03	1.83E+03	-1.17E+03	1.18E+03
2.50	-143.	-3.11E+03	2.85E+03	-3.07E+03	2.81E+03	-1.17E+03	1.18E+03
3.75	93.7	-4.35E+03	4.59E+03	-4.30E+03	4.54E+03	-1.17E+03	1.19E+03
5.00	424.	-5.49E+03	6.44E+03	-5.43E+03	6.37E+03	-1.17E+03	1.19E+03

Table P–93. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	-318.	-1.51E+03	880.	-1.50E+03	867.	-1.18E+03	1.18E+03
1.75	-261.	-2.37E+03	1.86E+03	-2.35E+03	1.83E+03	-1.19E+03	1.20E+03
2.50	-178.	-3.25E+03	2.89E+03	-3.22E+03	2.86E+03	-1.21E+03	1.21E+03
3.75	6.71	-4.80E+03	4.77E+03	-4.74E+03	4.72E+03	-1.27E+03	1.26E+03
5.00	225.	-6.53E+03	6.83E+03	-6.44E+03	6.74E+03	-1.33E+03	1.30E+03

Table P–94. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	-275.	-1.73E+03	1.36E+03	-1.66E+03	1.19E+03	-1.39E+03	1.46E+03
1.75	-236.	-2.76E+03	2.50E+03	-2.72E+03	2.23E+03	-1.42E+03	1.41E+03
2.50	-214.	-3.77E+03	3.59E+03	-3.67E+03	3.28E+03	-1.38E+03	1.40E+03
3.75	-75.6	-5.65E+03	5.72E+03	-5.41E+03	5.33E+03	-1.42E+03	1.44E+03
5.00	19.2	-7.52E+03	7.59E+03	-7.17E+03	7.35E+03	-1.44E+03	1.47E+03

Table P–95. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NFA							
	$\langle \boldsymbol{F_x^{\text{ptot}}} \rangle$	**Unfiltered** $\boldsymbol{F_x^{\text{ptot}}}$		**Filtered** $\boldsymbol{F_x^{\text{ptot}}}$		**Filtered** $\left(\boldsymbol{F_x^{\text{ptot}}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	-522.	-3.87E+03	2.06E+03	-3.66E+03	2.00E+03	-1.25E+03	1.01E+03
3.75	-662.	-5.72E+03	2.89E+03	-5.40E+03	2.90E+03	-1.26E+03	949.
5.00	-834.	-7.45E+03	3.68E+03	-7.10E+03	3.63E+03	-1.25E+03	893.

Table P–96. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NSHIPMO							
	$\langle \boldsymbol{F_x^{\text{ptot}}} \rangle$	**Unfiltered** $\boldsymbol{F_x^{\text{ptot}}}$		**Filtered** $\boldsymbol{F_x^{\text{ptot}}}$		**Filtered** $\left(\boldsymbol{F_x^{\text{ptot}}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	29.4	-1.54E+03	1.66E+03	-1.52E+03	1.64E+03	-1.55E+03	1.61E+03
1.75	90.4	-2.60E+03	2.98E+03	-2.57E+03	2.94E+03	-1.52E+03	1.63E+03
2.50	187.	-3.59E+03	4.34E+03	-3.56E+03	4.29E+03	-1.50E+03	1.64E+03
3.75	370.	-5.16E+03	6.65E+03	-5.13E+03	6.61E+03	-1.47E+03	1.66E+03
5.00	621.	-6.59E+03	9.01E+03	-6.58E+03	8.98E+03	-1.44E+03	1.67E+03

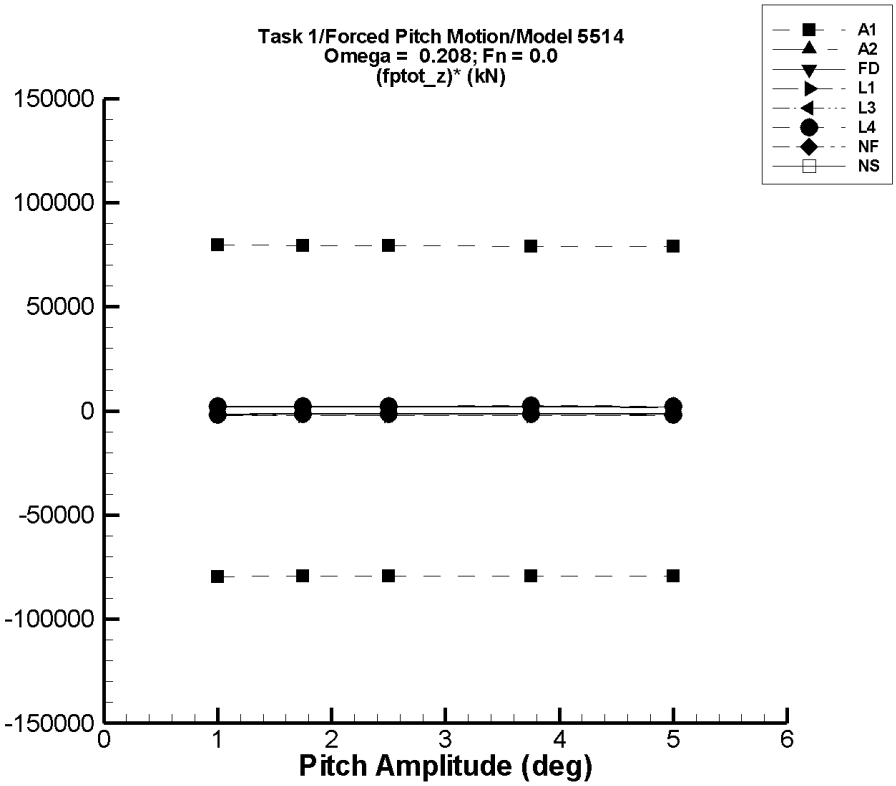

Figure P–13. Minimum and maximum of filtered $\left(F_z^{\text{ptot}} - \langle F_z^{\text{ptot}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–97. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.20E+04	1.23E+04	1.72E+05	1.22E+04	1.72E+05	-7.97E+04	7.96E+04
1.75	9.19E+04	-4.69E+04	2.31E+05	-4.69E+04	2.31E+05	-7.94E+04	7.92E+04
2.50	9.19E+04	-1.07E+05	2.90E+05	-1.07E+05	2.90E+05	-7.94E+04	7.93E+04
3.75	9.19E+04	-2.05E+05	3.89E+05	-2.05E+05	3.89E+05	-7.93E+04	7.92E+04
5.00	9.18E+04	-3.04E+05	4.88E+05	-3.05E+05	4.87E+05	-7.93E+04	7.91E+04

Table P–98. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.21E+04	9.00E+04	9.45E+04	9.00E+04	9.45E+04	-2.10E+03	2.39E+03
1.75	9.26E+04	8.98E+04	9.65E+04	8.98E+04	9.65E+04	-1.56E+03	2.25E+03
2.50	9.34E+04	8.98E+04	9.87E+04	8.98E+04	9.86E+04	-1.43E+03	2.11E+03
3.75	9.53E+04	8.97E+04	1.03E+05	8.98E+04	1.03E+05	-1.47E+03	2.04E+03
5.00	9.76E+04	8.97E+04	1.07E+05	8.98E+04	1.06E+05	-1.55E+03	1.77E+03

Table P–99. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.22E+04	9.04E+04	9.43E+04	9.04E+04	9.43E+04	-1.77E+03	2.15E+03
1.75	9.27E+04	9.01E+04	9.64E+04	9.01E+04	9.64E+04	-1.47E+03	2.15E+03
2.50	9.34E+04	8.99E+04	9.88E+04	8.99E+04	9.87E+04	-1.39E+03	2.14E+03
3.75	9.52E+04	8.97E+04	1.03E+05	8.97E+04	1.03E+05	-1.46E+03	2.15E+03
5.00	9.73E+04	8.94E+04	1.06E+05	8.95E+04	1.06E+05	-1.56E+03	1.83E+03

Table P–100. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.18E+04	8.97E+04	9.38E+04	8.97E+04	9.38E+04	-2.05E+03	2.04E+03
1.75	9.18E+04	8.82E+04	9.53E+04	8.82E+04	9.53E+04	-2.06E+03	2.03E+03
2.50	9.18E+04	8.66E+04	9.68E+04	8.66E+04	9.68E+04	-2.07E+03	2.02E+03
3.75	9.17E+04	8.39E+04	9.93E+04	8.39E+04	9.93E+04	-2.08E+03	2.01E+03
5.00	9.17E+04	8.13E+04	1.02E+05	8.13E+04	1.02E+05	-2.08E+03	1.99E+03

Table P–101. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.20E+04	9.02E+04	9.41E+04	9.02E+04	9.41E+04	-1.75E+03	2.14E+03
1.75	9.24E+04	9.00E+04	9.62E+04	9.00E+04	9.62E+04	-1.37E+03	2.14E+03
2.50	9.32E+04	9.01E+04	9.85E+04	9.01E+04	9.85E+04	-1.25E+03	2.13E+03
3.75	9.50E+04	9.01E+04	1.03E+05	9.01E+04	1.03E+05	-1.30E+03	2.14E+03
5.00	9.72E+04	9.01E+04	1.06E+05	9.01E+04	1.06E+05	-1.40E+03	1.84E+03

Table P–102. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.20E+04	9.02E+04	9.41E+04	9.02E+04	9.41E+04	-1.77E+03	2.18E+03
1.75	9.24E+04	8.96E+04	9.63E+04	8.97E+04	9.63E+04	-1.56E+03	2.24E+03
2.50	9.31E+04	8.92E+04	9.88E+04	8.93E+04	9.88E+04	-1.54E+03	2.30E+03
3.75	9.48E+04	8.85E+04	1.04E+05	8.85E+04	1.04E+05	-1.67E+03	2.40E+03
5.00	9.69E+04	8.76E+04	1.08E+05	8.77E+04	1.08E+05	-1.84E+03	2.30E+03

Table P–103. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NFA							
θ_a (°)	$\langle F_z^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_z^{ptot} Min. (kN)	Unfiltered F_z^{ptot} Max. (kN)	Filtered F_z^{ptot} Min. (kN)	Filtered F_z^{ptot} Max. (kN)	Filtered $\left(F_z^{\text{ptot}}\right)^*$ Min. (kN/°)	Filtered $\left(F_z^{\text{ptot}}\right)^*$ Max. (kN/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–104. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NSHIPMO							
θ_a (°)	$\langle F_z^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_z^{ptot} Min. (kN)	Unfiltered F_z^{ptot} Max. (kN)	Filtered F_z^{ptot} Min. (kN)	Filtered F_z^{ptot} Max. (kN)	Filtered $\left(F_z^{\text{ptot}}\right)^*$ Min. (kN/°)	Filtered $\left(F_z^{\text{ptot}}\right)^*$ Max. (kN/°)
1.00	9.22E+04	9.06E+04	9.40E+04	9.06E+04	9.40E+04	-1.50E+03	1.82E+03
1.75	9.25E+04	9.03E+04	9.58E+04	9.03E+04	9.58E+04	-1.28E+03	1.87E+03
2.50	9.32E+04	9.03E+04	9.79E+04	9.04E+04	9.79E+04	-1.12E+03	1.88E+03
3.75	9.47E+04	9.04E+04	1.02E+05	9.06E+04	1.02E+05	-1.10E+03	1.92E+03
5.00	9.67E+04	9.05E+04	1.06E+05	9.08E+04	1.06E+05	-1.18E+03	1.94E+03

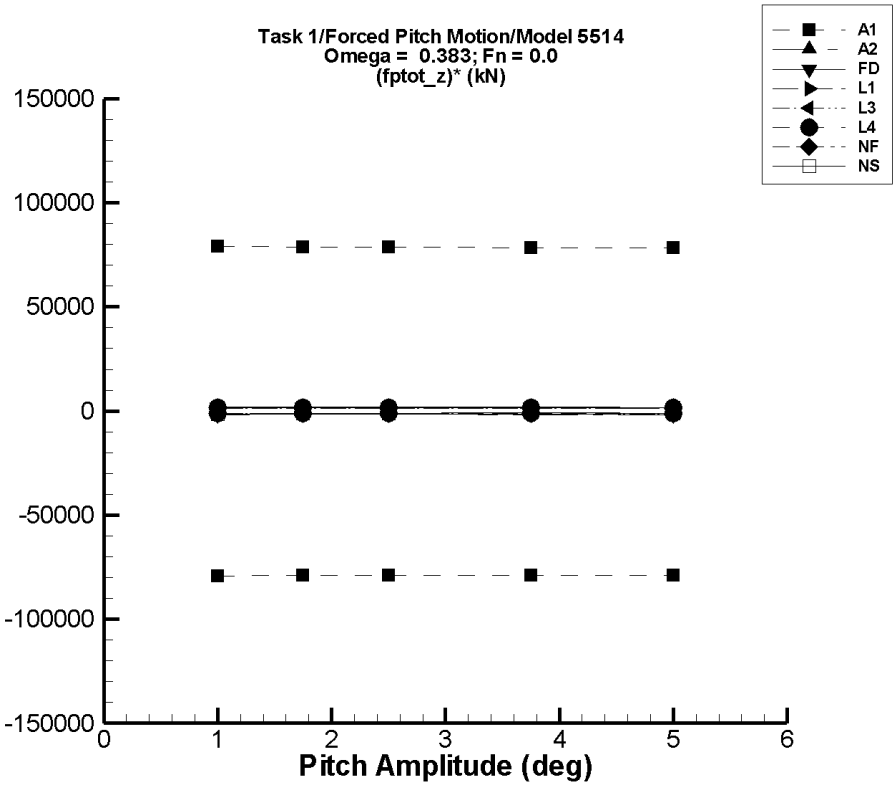

Figure P–14. Minimum and maximum of filtered $\left(F_z^{\text{ptot}} - \langle F_z^{\text{ptot}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–105. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.20E+04	1.28E+04	1.71E+05	1.26E+04	1.71E+05	-7.94E+04	7.89E+04
1.75	9.19E+04	-4.60E+04	2.30E+05	-4.64E+04	2.29E+05	-7.91E+04	7.85E+04
2.50	9.19E+04	-1.05E+05	2.89E+05	-1.06E+05	2.88E+05	-7.91E+04	7.85E+04
3.75	9.19E+04	-2.03E+05	3.87E+05	-2.04E+05	3.86E+05	-7.90E+04	7.84E+04
5.00	9.18E+04	-3.02E+05	4.85E+05	-3.03E+05	4.84E+05	-7.89E+04	7.84E+04

Table P–106. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.21E+04	9.01E+04	9.40E+04	9.04E+04	9.40E+04	-1.73E+03	1.89E+03
1.75	9.26E+04	8.98E+04	9.56E+04	8.99E+04	9.56E+04	-1.53E+03	1.75E+03
2.50	9.34E+04	8.94E+04	9.74E+04	8.95E+04	9.74E+04	-1.57E+03	1.59E+03
3.75	9.53E+04	8.87E+04	1.01E+05	8.89E+04	1.01E+05	-1.72E+03	1.51E+03
5.00	9.76E+04	8.80E+04	1.05E+05	8.83E+04	1.04E+05	-1.85E+03	1.34E+03

Table P–107. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.22E+04	9.05E+04	9.42E+04	9.05E+04	9.42E+04	-1.68E+03	1.97E+03
1.75	9.27E+04	8.99E+04	9.61E+04	8.99E+04	9.61E+04	-1.54E+03	1.97E+03
2.50	9.34E+04	8.95E+04	9.83E+04	8.95E+04	9.83E+04	-1.54E+03	1.95E+03
3.75	9.51E+04	8.88E+04	1.03E+05	8.89E+04	1.02E+05	-1.67E+03	1.96E+03
5.00	9.73E+04	8.82E+04	1.06E+05	8.83E+04	1.06E+05	-1.79E+03	1.72E+03

Table P–108. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.18E+04	9.05E+04	9.31E+04	9.05E+04	9.31E+04	-1.33E+03	1.31E+03
1.75	9.18E+04	8.95E+04	9.41E+04	8.95E+04	9.41E+04	-1.34E+03	1.30E+03
2.50	9.18E+04	8.84E+04	9.50E+04	8.84E+04	9.50E+04	-1.34E+03	1.29E+03
3.75	9.18E+04	8.67E+04	9.66E+04	8.67E+04	9.66E+04	-1.36E+03	1.28E+03
5.00	9.19E+04	8.50E+04	9.82E+04	8.50E+04	9.82E+04	-1.37E+03	1.26E+03

Table P–109. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.20E+04	9.08E+04	9.33E+04	9.08E+04	9.33E+04	-1.19E+03	1.37E+03
1.75	9.25E+04	9.03E+04	9.48E+04	9.03E+04	9.48E+04	-1.21E+03	1.36E+03
2.50	9.32E+04	9.00E+04	9.66E+04	9.00E+04	9.66E+04	-1.29E+03	1.34E+03
3.75	9.51E+04	8.95E+04	1.00E+05	8.95E+04	1.00E+05	-1.49E+03	1.33E+03
5.00	9.73E+04	8.90E+04	1.03E+05	8.91E+04	1.03E+05	-1.65E+03	1.17E+03

Table P–110. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.19E+04	9.07E+04	9.33E+04	9.07E+04	9.33E+04	-1.20E+03	1.41E+03
1.75	9.23E+04	9.03E+04	9.48E+04	9.03E+04	9.48E+04	-1.12E+03	1.46E+03
2.50	9.29E+04	9.00E+04	9.67E+04	9.02E+04	9.66E+04	-1.09E+03	1.50E+03
3.75	9.44E+04	8.99E+04	1.00E+05	9.00E+04	1.00E+05	-1.15E+03	1.57E+03
5.00	9.61E+04	8.97E+04	1.04E+05	9.00E+04	1.03E+05	-1.23E+03	1.47E+03

Table P–111. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NFA							
θ_a (°)	$\langle F_z^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_z^{ptot} Min. (kN)	Unfiltered F_z^{ptot} Max. (kN)	Filtered F_z^{ptot} Min. (kN)	Filtered F_z^{ptot} Max. (kN)	Filtered $\left(F_z^{\text{ptot}}\right)^*$ Min. (kN/°)	Filtered $\left(F_z^{\text{ptot}}\right)^*$ Max. (kN/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–112. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NSHIPMO							
θ_a (°)	$\langle F_z^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_z^{ptot} Min. (kN)	Unfiltered F_z^{ptot} Max. (kN)	Filtered F_z^{ptot} Min. (kN)	Filtered F_z^{ptot} Max. (kN)	Filtered $\left(F_z^{\text{ptot}}\right)^*$ Min. (kN/°)	Filtered $\left(F_z^{\text{ptot}}\right)^*$ Max. (kN/°)
1.00	9.21E+04	9.08E+04	9.38E+04	9.08E+04	9.38E+04	-1.35E+03	1.62E+03
1.75	9.24E+04	9.03E+04	9.54E+04	9.04E+04	9.54E+04	-1.19E+03	1.67E+03
2.50	9.30E+04	9.03E+04	9.73E+04	9.04E+04	9.72E+04	-1.03E+03	1.68E+03
3.75	9.44E+04	9.05E+04	1.01E+05	9.07E+04	1.01E+05	-971.	1.70E+03
5.00	9.62E+04	9.05E+04	1.05E+05	9.07E+04	1.05E+05	-1.09E+03	1.73E+03

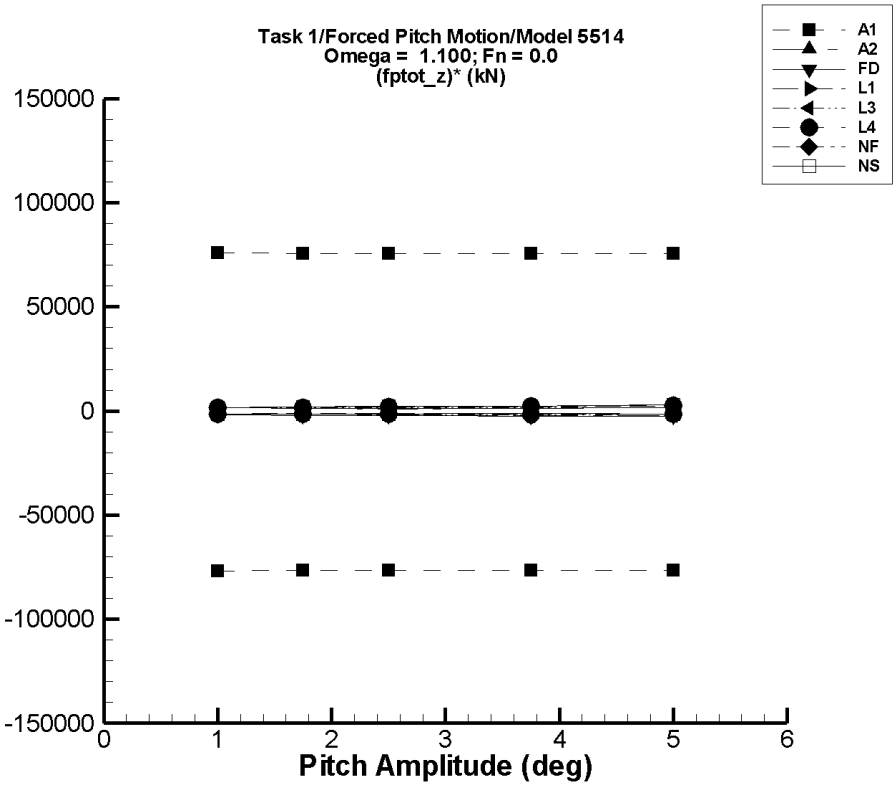

Figure P–15. Minimum and maximum of filtered $\left(F_z^{\text{ptot}} - \langle F_z^{\text{ptot}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–113. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.19E+04	1.34E+04	1.70E+05	1.50E+04	1.68E+05	-7.69E+04	7.59E+04
1.75	9.19E+04	-4.49E+04	2.28E+05	-4.21E+04	2.24E+05	-7.66E+04	7.56E+04
2.50	9.19E+04	-1.04E+05	2.87E+05	-9.96E+04	2.81E+05	-7.66E+04	7.56E+04
3.75	9.18E+04	-2.01E+05	3.84E+05	-1.95E+05	3.75E+05	-7.65E+04	7.55E+04
5.00	9.18E+04	-2.99E+05	4.81E+05	-2.91E+05	4.69E+05	-7.65E+04	7.55E+04

Table P–114. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.21E+04	9.03E+04	9.36E+04	9.06E+04	9.35E+04	-1.53E+03	1.46E+03
1.75	9.25E+04	8.94E+04	9.48E+04	8.97E+04	9.48E+04	-1.60E+03	1.27E+03
2.50	9.34E+04	8.86E+04	9.62E+04	8.89E+04	9.61E+04	-1.77E+03	1.08E+03
3.75	9.53E+04	8.70E+04	1.00E+05	8.75E+04	9.96E+04	-2.08E+03	1.17E+03
5.00	9.75E+04	8.55E+04	1.06E+05	8.60E+04	1.05E+05	-2.30E+03	1.56E+03

Table P–115. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.22E+04	9.03E+04	9.38E+04	9.03E+04	9.37E+04	-1.88E+03	1.54E+03
1.75	9.27E+04	8.91E+04	9.52E+04	8.91E+04	9.51E+04	-2.05E+03	1.41E+03
2.50	9.34E+04	8.78E+04	9.67E+04	8.78E+04	9.66E+04	-2.22E+03	1.29E+03
3.75	9.51E+04	8.58E+04	1.00E+05	8.59E+04	9.99E+04	-2.47E+03	1.26E+03
5.00	9.73E+04	8.37E+04	1.06E+05	8.40E+04	1.05E+05	-2.65E+03	1.64E+03

Table P–116. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.18E+04	9.04E+04	9.34E+04	9.04E+04	9.34E+04	-1.37E+03	1.64E+03
1.75	9.17E+04	8.95E+04	9.48E+04	8.94E+04	9.48E+04	-1.31E+03	1.76E+03
2.50	9.16E+04	8.85E+04	9.64E+04	8.85E+04	9.63E+04	-1.25E+03	1.87E+03
3.75	9.14E+04	8.64E+04	9.94E+04	8.65E+04	9.92E+04	-1.31E+03	2.07E+03
5.00	9.12E+04	8.38E+04	1.03E+05	8.40E+04	1.03E+05	-1.43E+03	2.27E+03

Table P–117. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.19E+04	9.04E+04	9.35E+04	9.04E+04	9.35E+04	-1.56E+03	1.51E+03
1.75	9.24E+04	8.94E+04	9.50E+04	8.94E+04	9.50E+04	-1.68E+03	1.51E+03
2.50	9.30E+04	8.85E+04	9.69E+04	8.85E+04	9.68E+04	-1.80E+03	1.51E+03
3.75	9.47E+04	8.69E+04	1.01E+05	8.70E+04	1.00E+05	-2.04E+03	1.54E+03
5.00	9.66E+04	8.51E+04	1.05E+05	8.53E+04	1.05E+05	-2.26E+03	1.64E+03

Table P–118. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.19E+04	9.02E+04	9.36E+04	9.06E+04	9.36E+04	-1.37E+03	1.66E+03
1.75	9.23E+04	8.93E+04	9.58E+04	8.95E+04	9.53E+04	-1.60E+03	1.74E+03
2.50	9.29E+04	8.87E+04	9.97E+04	8.89E+04	9.78E+04	-1.60E+03	1.96E+03
3.75	9.46E+04	8.81E+04	1.08E+05	8.84E+04	1.04E+05	-1.64E+03	2.47E+03
5.00	9.62E+04	8.79E+04	1.18E+05	8.83E+04	1.10E+05	-1.59E+03	2.77E+03

Table P–119. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NFA							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–120. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NSHIPMO							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.20E+04	9.07E+04	9.38E+04	9.07E+04	9.37E+04	-1.34E+03	1.68E+03
1.75	9.20E+04	8.96E+04	9.54E+04	8.97E+04	9.53E+04	-1.35E+03	1.88E+03
2.50	9.23E+04	8.87E+04	9.85E+04	8.88E+04	9.79E+04	-1.39E+03	2.24E+03
3.75	9.26E+04	8.76E+04	1.05E+05	8.77E+04	1.02E+05	-1.31E+03	2.45E+03
5.00	9.35E+04	8.66E+04	1.17E+05	8.66E+04	1.09E+05	-1.38E+03	3.13E+03

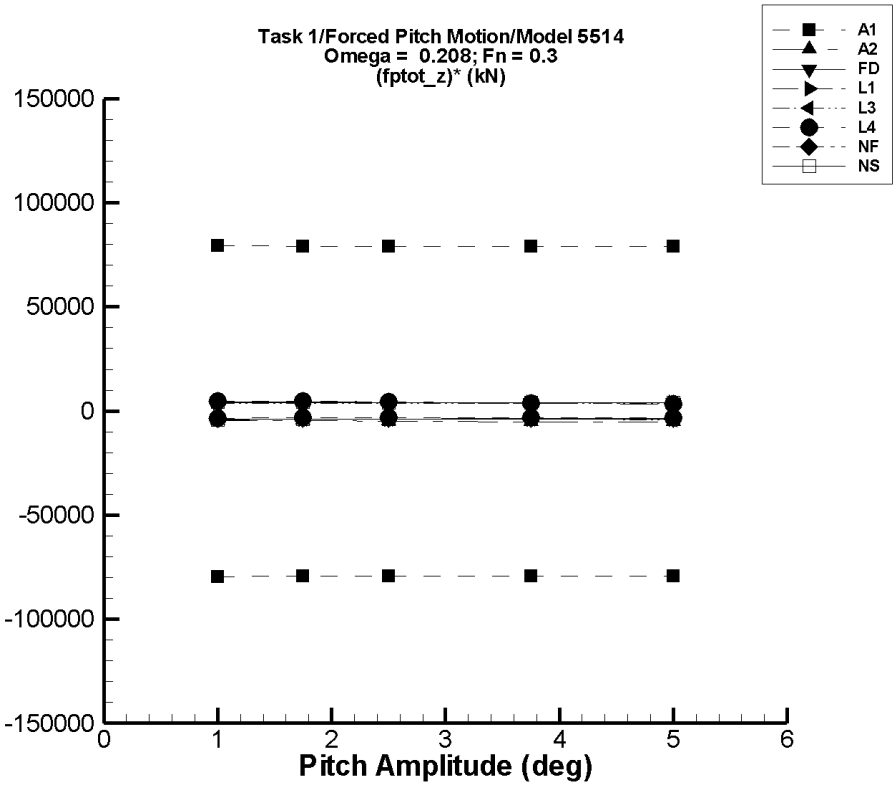

Figure P–16. Minimum and maximum of filtered $\left(F_z^{\text{ptot}} - \langle F_z^{\text{ptot}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–121. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.20E+04	1.24E+04	1.71E+05	1.22E+04	1.71E+05	-7.97E+04	7.94E+04
1.75	9.19E+04	-4.67E+04	2.30E+05	-4.69E+04	2.30E+05	-7.94E+04	7.91E+04
2.50	9.19E+04	-1.06E+05	2.90E+05	-1.07E+05	2.90E+05	-7.94E+04	7.91E+04
3.75	9.19E+04	-2.05E+05	3.88E+05	-2.05E+05	3.88E+05	-7.93E+04	7.90E+04
5.00	9.18E+04	-3.04E+05	4.87E+05	-3.04E+05	4.87E+05	-7.92E+04	7.89E+04

Table P–122. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.21E+04	8.75E+04	9.64E+04	8.75E+04	9.64E+04	-4.58E+03	4.29E+03
1.75	9.25E+04	8.40E+04	9.97E+04	8.43E+04	9.97E+04	-4.72E+03	4.06E+03
2.50	9.34E+04	8.11E+04	1.03E+05	8.12E+04	1.03E+05	-4.88E+03	3.85E+03
3.75	9.53E+04	7.60E+04	1.09E+05	7.61E+04	1.09E+05	-5.12E+03	3.56E+03
5.00	9.76E+04	7.09E+04	1.15E+05	7.11E+04	1.15E+05	-5.30E+03	3.39E+03

Table P–123. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.22E+04	8.83E+04	9.62E+04	8.83E+04	9.62E+04	-3.92E+03	4.04E+03
1.75	9.27E+04	8.59E+04	9.97E+04	8.59E+04	9.97E+04	-3.84E+03	4.01E+03
2.50	9.34E+04	8.39E+04	1.03E+05	8.39E+04	1.03E+05	-3.80E+03	3.96E+03
3.75	9.52E+04	8.07E+04	1.10E+05	8.08E+04	1.10E+05	-3.84E+03	3.92E+03
5.00	9.73E+04	7.78E+04	1.17E+05	7.78E+04	1.17E+05	-3.89E+03	3.85E+03

Table P–124. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	8.70E+04	8.32E+04	9.08E+04	8.32E+04	9.08E+04	-3.80E+03	3.81E+03
1.75	8.70E+04	8.03E+04	9.37E+04	8.03E+04	9.37E+04	-3.80E+03	3.82E+03
2.50	8.69E+04	7.74E+04	9.65E+04	7.74E+04	9.65E+04	-3.80E+03	3.82E+03
3.75	8.68E+04	7.25E+04	1.01E+05	7.25E+04	1.01E+05	-3.79E+03	3.83E+03
5.00	8.65E+04	6.76E+04	1.06E+05	6.76E+04	1.06E+05	-3.79E+03	3.84E+03

Table P–125. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	8.72E+04	8.34E+04	9.10E+04	8.34E+04	9.10E+04	-3.83E+03	3.76E+03
1.75	8.76E+04	8.08E+04	9.41E+04	8.08E+04	9.41E+04	-3.89E+03	3.67E+03
2.50	8.83E+04	7.84E+04	9.73E+04	7.85E+04	9.73E+04	-3.95E+03	3.59E+03
3.75	9.00E+04	7.47E+04	1.03E+05	7.47E+04	1.03E+05	-4.09E+03	3.48E+03
5.00	9.20E+04	7.10E+04	1.09E+05	7.10E+04	1.09E+05	-4.20E+03	3.44E+03

Table P–126. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	8.71E+04	8.34E+04	9.20E+04	8.36E+04	9.18E+04	-3.49E+03	4.70E+03
1.75	8.74E+04	8.15E+04	9.56E+04	8.17E+04	9.53E+04	-3.24E+03	4.54E+03
2.50	8.79E+04	7.98E+04	9.84E+04	8.00E+04	9.83E+04	-3.18E+03	4.13E+03
3.75	8.93E+04	7.73E+04	1.03E+05	7.75E+04	1.03E+05	-3.17E+03	3.68E+03
5.00	9.12E+04	7.49E+04	1.08E+05	7.53E+04	1.08E+05	-3.18E+03	3.35E+03

Table P–127. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NFA							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–128. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NSHIPMO							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.21E+04	8.80E+04	9.64E+04	8.80E+04	9.64E+04	-4.11E+03	4.24E+03
1.75	9.27E+04	8.59E+04	1.00E+05	8.60E+04	1.00E+05	-3.87E+03	4.19E+03
2.50	9.35E+04	8.37E+04	1.04E+05	8.40E+04	1.04E+05	-3.79E+03	4.16E+03
3.75	9.53E+04	8.14E+04	1.11E+05	8.17E+04	1.11E+05	-3.62E+03	4.11E+03
5.00	9.77E+04	7.93E+04	1.18E+05	7.97E+04	1.18E+05	-3.60E+03	4.03E+03

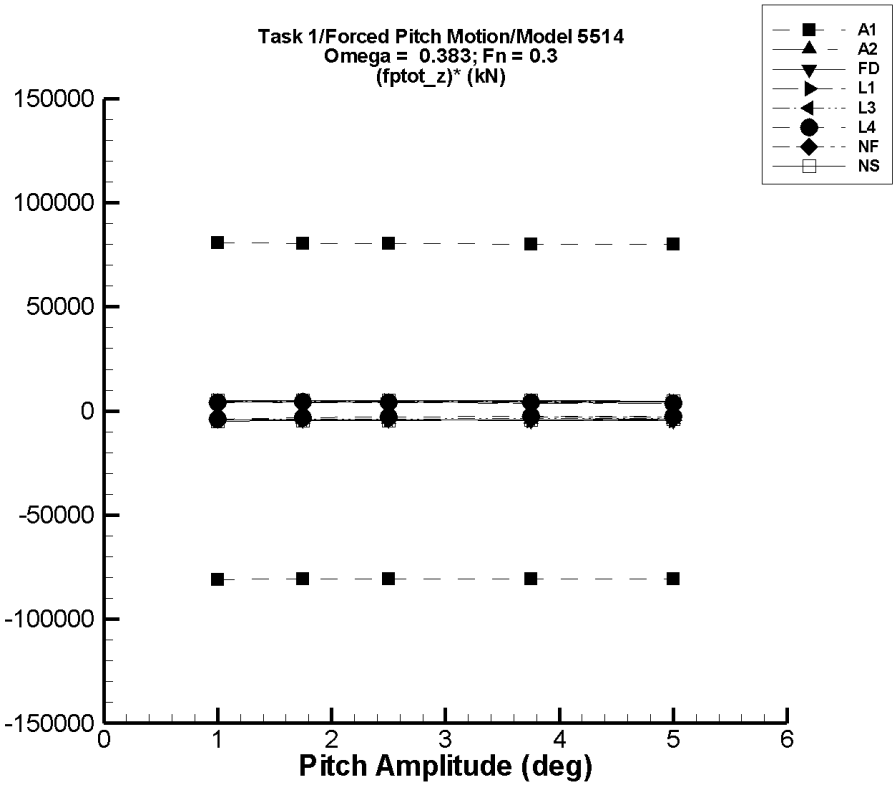

Figure P–17. Minimum and maximum of filtered $\left(F_z^{\text{ptot}} - \langle F_z^{\text{ptot}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–129. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.19E+04	1.10E+04	1.73E+05	1.08E+04	1.73E+05	-8.11E+04	8.06E+04
1.75	9.19E+04	-4.91E+04	2.33E+05	-4.95E+04	2.32E+05	-8.08E+04	8.02E+04
2.50	9.19E+04	-1.10E+05	2.93E+05	-1.10E+05	2.92E+05	-8.08E+04	8.02E+04
3.75	9.18E+04	-2.10E+05	3.93E+05	-2.11E+05	3.92E+05	-8.07E+04	8.01E+04
5.00	9.17E+04	-3.11E+05	4.94E+05	-3.12E+05	4.92E+05	-8.07E+04	8.01E+04

Table P–130. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.21E+04	8.75E+04	9.64E+04	8.77E+04	9.64E+04	-4.36E+03	4.36E+03
1.75	9.25E+04	8.50E+04	9.98E+04	8.50E+04	9.98E+04	-4.26E+03	4.17E+03
2.50	9.33E+04	8.26E+04	1.03E+05	8.26E+04	1.03E+05	-4.27E+03	3.99E+03
3.75	9.52E+04	7.88E+04	1.10E+05	7.90E+04	1.10E+05	-4.32E+03	3.82E+03
5.00	9.74E+04	7.52E+04	1.17E+05	7.55E+04	1.16E+05	-4.38E+03	3.76E+03

Table P–131. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.22E+04	8.77E+04	9.67E+04	8.78E+04	9.67E+04	-4.43E+03	4.46E+03
1.75	9.27E+04	8.49E+04	1.00E+05	8.49E+04	1.00E+05	-4.42E+03	4.40E+03
2.50	9.34E+04	8.23E+04	1.04E+05	8.23E+04	1.04E+05	-4.42E+03	4.34E+03
3.75	9.51E+04	7.82E+04	1.11E+05	7.83E+04	1.11E+05	-4.50E+03	4.26E+03
5.00	9.73E+04	7.42E+04	1.19E+05	7.44E+04	1.18E+05	-4.57E+03	4.22E+03

Table P–132. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	8.70E+04	8.25E+04	9.15E+04	8.25E+04	9.15E+04	-4.52E+03	4.49E+03
1.75	8.70E+04	7.90E+04	9.48E+04	7.90E+04	9.48E+04	-4.54E+03	4.47E+03
2.50	8.69E+04	7.55E+04	9.81E+04	7.55E+04	9.81E+04	-4.55E+03	4.46E+03
3.75	8.68E+04	6.96E+04	1.03E+05	6.96E+04	1.03E+05	-4.57E+03	4.44E+03
5.00	8.65E+04	6.35E+04	1.09E+05	6.35E+04	1.09E+05	-4.60E+03	4.42E+03

Table P–133. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	8.72E+04	8.29E+04	9.18E+04	8.29E+04	9.17E+04	-4.33E+03	4.55E+03
1.75	8.76E+04	8.04E+04	9.55E+04	8.04E+04	9.55E+04	-4.11E+03	4.51E+03
2.50	8.83E+04	7.84E+04	9.95E+04	7.84E+04	9.95E+04	-3.97E+03	4.48E+03
3.75	9.00E+04	7.56E+04	1.07E+05	7.56E+04	1.07E+05	-3.84E+03	4.44E+03
5.00	9.20E+04	7.30E+04	1.14E+05	7.31E+04	1.14E+05	-3.78E+03	4.32E+03

Table P–134. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	8.72E+04	8.32E+04	9.13E+04	8.33E+04	9.11E+04	-3.92E+03	3.89E+03
1.75	8.75E+04	8.15E+04	9.48E+04	8.17E+04	9.47E+04	-3.30E+03	4.14E+03
2.50	8.81E+04	8.03E+04	9.84E+04	8.07E+04	9.81E+04	-2.99E+03	3.99E+03
3.75	8.99E+04	7.95E+04	1.05E+05	7.98E+04	1.04E+05	-2.68E+03	3.86E+03
5.00	9.20E+04	7.90E+04	1.11E+05	7.94E+04	1.11E+05	-2.52E+03	3.72E+03

Table P–135. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NFA							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	8.67E+04	7.85E+04	9.70E+04	7.86E+04	9.69E+04	-3.24E+03	4.10E+03
3.75	8.84E+04	7.76E+04	1.03E+05	7.76E+04	1.03E+05	-2.86E+03	3.95E+03
5.00	9.06E+04	7.68E+04	1.10E+05	7.70E+04	1.10E+05	-2.74E+03	3.81E+03

Table P–136. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NSHIPMO							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.21E+04	8.71E+04	9.71E+04	8.72E+04	9.71E+04	-4.91E+03	5.01E+03
1.75	9.27E+04	8.45E+04	1.01E+05	8.46E+04	1.01E+05	-4.63E+03	4.97E+03
2.50	9.33E+04	8.18E+04	1.06E+05	8.21E+04	1.06E+05	-4.46E+03	4.94E+03
3.75	9.49E+04	7.92E+04	1.13E+05	7.95E+04	1.13E+05	-4.11E+03	4.88E+03
5.00	9.71E+04	7.69E+04	1.21E+05	7.74E+04	1.21E+05	-3.94E+03	4.82E+03

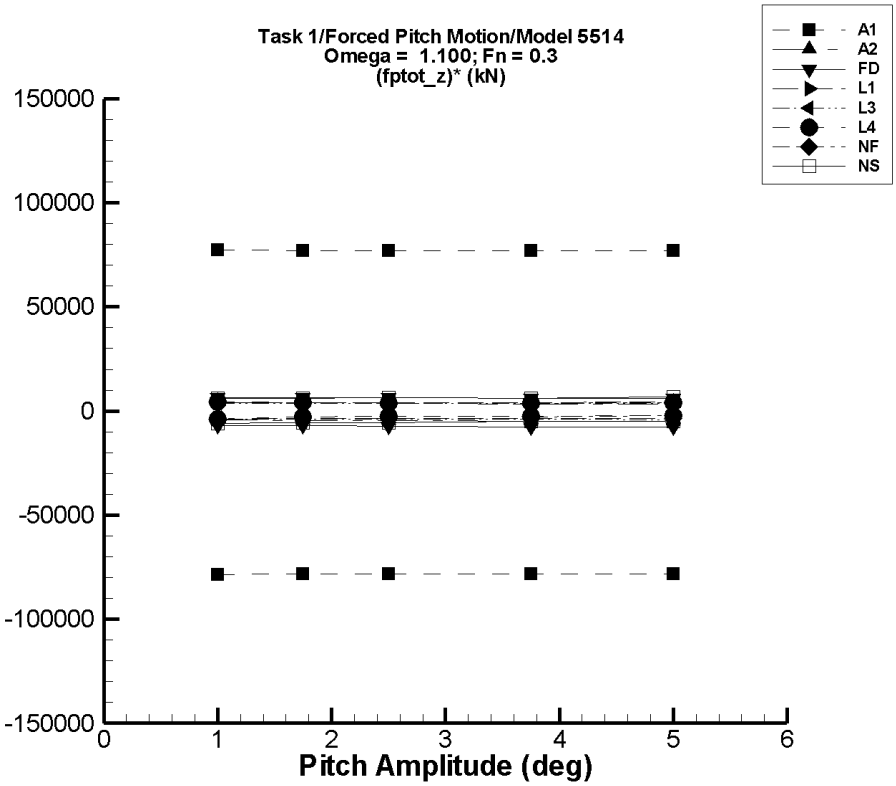

Figure P–18. Minimum and maximum of filtered $\left(F_z^{\text{ptot}} - \langle F_z^{\text{ptot}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–137. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.20E+04	1.20E+04	1.72E+05	1.34E+04	1.69E+05	-7.86E+04	7.74E+04
1.75	9.20E+04	-4.73E+04	2.31E+05	-4.49E+04	2.27E+05	-7.82E+04	7.70E+04
2.50	9.19E+04	-1.07E+05	2.91E+05	-1.04E+05	2.85E+05	-7.82E+04	7.70E+04
3.75	9.19E+04	-2.06E+05	3.90E+05	-2.01E+05	3.81E+05	-7.82E+04	7.70E+04
5.00	9.19E+04	-3.05E+05	4.89E+05	-2.99E+05	4.76E+05	-7.81E+04	7.69E+04

Table P–138. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.21E+04	8.75E+04	9.63E+04	8.78E+04	9.62E+04	-4.32E+03	4.07E+03
1.75	9.26E+04	8.43E+04	9.95E+04	8.48E+04	9.93E+04	-4.43E+03	3.85E+03
2.50	9.34E+04	8.11E+04	1.03E+05	8.19E+04	1.03E+05	-4.59E+03	3.64E+03
3.75	9.53E+04	7.59E+04	1.08E+05	7.72E+04	1.08E+05	-4.84E+03	3.37E+03
5.00	9.76E+04	7.08E+04	1.14E+05	7.24E+04	1.14E+05	-5.05E+03	3.21E+03

Table P–139. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.22E+04	8.52E+04	9.89E+04	8.52E+04	9.87E+04	-7.01E+03	6.55E+03
1.75	9.27E+04	8.01E+04	1.04E+05	8.01E+04	1.04E+05	-7.18E+03	6.41E+03
2.50	9.34E+04	7.50E+04	1.10E+05	7.50E+04	1.09E+05	-7.35E+03	6.26E+03
3.75	9.51E+04	6.67E+04	1.18E+05	6.66E+04	1.18E+05	-7.60E+03	6.03E+03
5.00	9.73E+04	5.85E+04	1.28E+05	5.84E+04	1.27E+05	-7.77E+03	5.90E+03

Table P–140. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	8.70E+04	8.32E+04	9.10E+04	8.33E+04	9.09E+04	-3.75E+03	3.89E+03
1.75	8.70E+04	8.05E+04	9.40E+04	8.05E+04	9.39E+04	-3.68E+03	3.95E+03
2.50	8.69E+04	7.77E+04	9.70E+04	7.78E+04	9.69E+04	-3.62E+03	4.01E+03
3.75	8.66E+04	7.33E+04	1.02E+05	7.34E+04	1.02E+05	-3.52E+03	4.12E+03
5.00	8.63E+04	6.91E+04	1.08E+05	6.92E+04	1.07E+05	-3.42E+03	4.22E+03

Table P–141. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	8.72E+04	8.33E+04	9.10E+04	8.34E+04	9.10E+04	-3.83E+03	3.79E+03
1.75	8.76E+04	8.07E+04	9.42E+04	8.08E+04	9.41E+04	-3.88E+03	3.72E+03
2.50	8.83E+04	7.82E+04	9.75E+04	7.84E+04	9.74E+04	-3.94E+03	3.65E+03
3.75	8.99E+04	7.43E+04	1.03E+05	7.46E+04	1.03E+05	-4.07E+03	3.57E+03
5.00	9.18E+04	7.05E+04	1.10E+05	7.08E+04	1.10E+05	-4.20E+03	3.57E+03

Table P–142. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	8.70E+04	8.30E+04	9.17E+04	8.33E+04	9.15E+04	-3.75E+03	4.48E+03
1.75	8.71E+04	8.16E+04	9.47E+04	8.21E+04	9.42E+04	-2.88E+03	4.07E+03
2.50	8.76E+04	8.06E+04	9.81E+04	8.11E+04	9.73E+04	-2.60E+03	3.86E+03
3.75	8.89E+04	7.88E+04	1.08E+05	7.99E+04	1.03E+05	-2.39E+03	3.80E+03
5.00	9.03E+04	7.85E+04	1.17E+05	7.90E+04	1.11E+05	-2.25E+03	4.12E+03

Table P–143. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NFA							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $(F_z^{\text{ptot}})^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	8.75E+04	8.02E+04	9.66E+04	8.03E+04	9.57E+04	-2.89E+03	3.28E+03
3.75	8.85E+04	7.75E+04	1.02E+05	7.77E+04	1.02E+05	-2.88E+03	3.50E+03
5.00	9.05E+04	7.81E+04	1.11E+05	7.89E+04	1.10E+05	-2.31E+03	3.89E+03

Table P–144. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NSHIPMO							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $(F_z^{\text{ptot}})^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.18E+04	8.59E+04	9.79E+04	8.60E+04	9.78E+04	-5.83E+03	5.97E+03
1.75	9.24E+04	8.24E+04	1.04E+05	8.25E+04	1.03E+05	-5.64E+03	6.14E+03
2.50	9.26E+04	7.85E+04	1.09E+05	7.86E+04	1.09E+05	-5.57E+03	6.42E+03
3.75	9.35E+04	7.42E+04	1.17E+05	7.44E+04	1.17E+05	-5.09E+03	6.20E+03
5.00	9.49E+04	7.02E+04	1.33E+05	7.04E+04	1.28E+05	-4.91E+03	6.69E+03

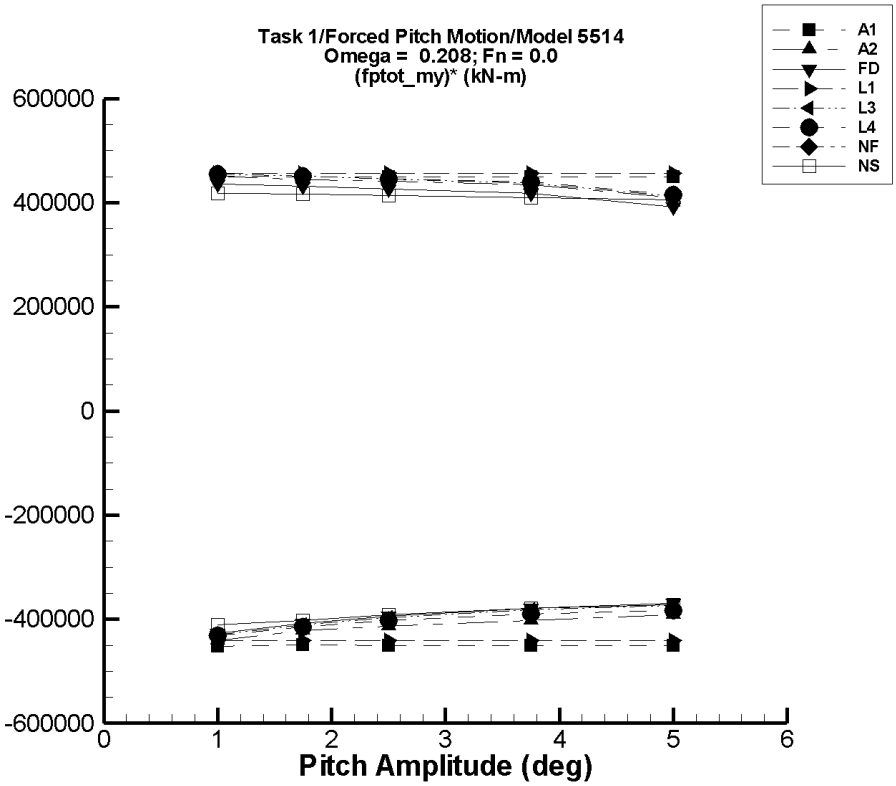

Figure P–19. Minimum and maximum of filtered $\left(M_y^{\text{ptot}} - \langle M_y^{\text{ptot}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–145. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle M_y^{\text{ptot}} \rangle$	**Unfiltered** M_y^{ptot}		**Filtered** M_y^{ptot}		**Filtered** $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	-10.4	-4.51E+05	4.52E+05	-4.52E+05	4.51E+05	-4.52E+05	4.51E+05
1.75	-18.1	-7.87E+05	7.87E+05	-7.88E+05	7.86E+05	-4.50E+05	4.49E+05
2.50	-26.1	-1.12E+06	1.13E+06	-1.13E+06	1.12E+06	-4.50E+05	4.50E+05
3.75	-39.1	-1.69E+06	1.69E+06	-1.69E+06	1.69E+06	-4.50E+05	4.50E+05
5.00	-52.1	-2.25E+06	2.25E+06	-2.25E+06	2.25E+06	-4.51E+05	4.50E+05

Table P–146. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle M_y^{\text{ptot}} \rangle$	**Unfiltered** M_y^{ptot}		**Filtered** M_y^{ptot}		**Filtered** $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	5.21E+03	-4.36E+05	4.57E+05	-4.36E+05	4.56E+05	-4.42E+05	4.51E+05
1.75	1.75E+04	-7.22E+05	7.96E+05	-7.22E+05	7.95E+05	-4.22E+05	4.44E+05
2.50	3.56E+04	-9.99E+05	1.14E+06	-9.99E+05	1.14E+06	-4.14E+05	4.41E+05
3.75	6.99E+04	-1.44E+06	1.70E+06	-1.44E+06	1.70E+06	-4.02E+05	4.35E+05
5.00	9.85E+04	-1.86E+06	2.15E+06	-1.86E+06	2.15E+06	-3.92E+05	4.10E+05

Table P–147. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle M_y^{\text{ptot}} \rangle$	**Unfiltered** M_y^{ptot}		**Filtered** M_y^{ptot}		**Filtered** $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	2.02E+04	-4.07E+05	4.56E+05	-4.07E+05	4.56E+05	-4.27E+05	4.36E+05
1.75	3.25E+04	-6.83E+05	7.87E+05	-6.83E+05	7.87E+05	-4.09E+05	4.31E+05
2.50	5.24E+04	-9.33E+05	1.12E+06	-9.33E+05	1.12E+06	-3.94E+05	4.26E+05
3.75	9.42E+04	-1.33E+06	1.66E+06	-1.33E+06	1.66E+06	-3.79E+05	4.18E+05
5.00	1.24E+05	-1.72E+06	2.08E+06	-1.72E+06	2.08E+06	-3.69E+05	3.91E+05

Table P–148. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle M_y^{\text{ptot}} \rangle$	**Unfiltered** M_y^{ptot}		**Filtered** M_y^{ptot}		**Filtered** $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	52.6	-4.49E+05	4.49E+05	-4.49E+05	4.49E+05	-4.49E+05	4.49E+05
1.75	161.	-7.86E+05	7.86E+05	-7.85E+05	7.85E+05	-4.49E+05	4.49E+05
2.50	328.	-1.12E+06	1.12E+06	-1.12E+06	1.12E+06	-4.49E+05	4.49E+05
3.75	738.	-1.68E+06	1.68E+06	-1.68E+06	1.68E+06	-4.49E+05	4.49E+05
5.00	1.31E+03	-2.24E+06	2.24E+06	-2.24E+06	2.24E+06	-4.49E+05	4.48E+05

Table P–149. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle M_y^{\text{ptot}} \rangle$	**Unfiltered** M_y^{ptot}		**Filtered** M_y^{ptot}		**Filtered** $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	4.21E+03	-4.34E+05	4.51E+05	-4.34E+05	4.51E+05	-4.38E+05	4.47E+05
1.75	1.66E+04	-7.18E+05	7.90E+05	-7.17E+05	7.90E+05	-4.19E+05	4.42E+05
2.50	3.67E+04	-9.76E+05	1.13E+06	-9.76E+05	1.13E+06	-4.05E+05	4.37E+05
3.75	7.87E+04	-1.39E+06	1.69E+06	-1.39E+06	1.69E+06	-3.91E+05	4.29E+05
5.00	1.11E+05	-1.80E+06	2.13E+06	-1.80E+06	2.13E+06	-3.82E+05	4.04E+05

Table P–150. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle M_y^{\text{ptot}} \rangle$	**Unfiltered** M_y^{ptot}		**Filtered** M_y^{ptot}		**Filtered** $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	3.85E+03	-4.36E+05	4.51E+05	-4.36E+05	4.51E+05	-4.40E+05	4.47E+05
1.75	1.53E+04	-7.27E+05	7.90E+05	-7.27E+05	7.90E+05	-4.24E+05	4.43E+05
2.50	3.42E+04	-9.94E+05	1.13E+06	-9.94E+05	1.13E+06	-4.11E+05	4.38E+05
3.75	7.41E+04	-1.42E+06	1.69E+06	-1.42E+06	1.69E+06	-3.99E+05	4.32E+05
5.00	1.05E+05	-1.85E+06	2.14E+06	-1.85E+06	2.14E+06	-3.92E+05	4.07E+05

Table P–151. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NFA							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–152. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NSHIPMO							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	4.96E+03	-4.10E+05	4.27E+05	-4.05E+05	4.23E+05	-4.10E+05	4.18E+05
1.75	1.39E+04	-6.96E+05	7.51E+05	-6.90E+05	7.43E+05	-4.02E+05	4.17E+05
2.50	3.05E+04	-9.56E+05	1.08E+06	-9.48E+05	1.06E+06	-3.91E+05	4.14E+05
3.75	6.60E+04	-1.36E+06	1.61E+06	-1.36E+06	1.60E+06	-3.79E+05	4.10E+05
5.00	1.07E+05	-1.76E+06	2.14E+06	-1.76E+06	2.13E+06	-3.73E+05	4.05E+05

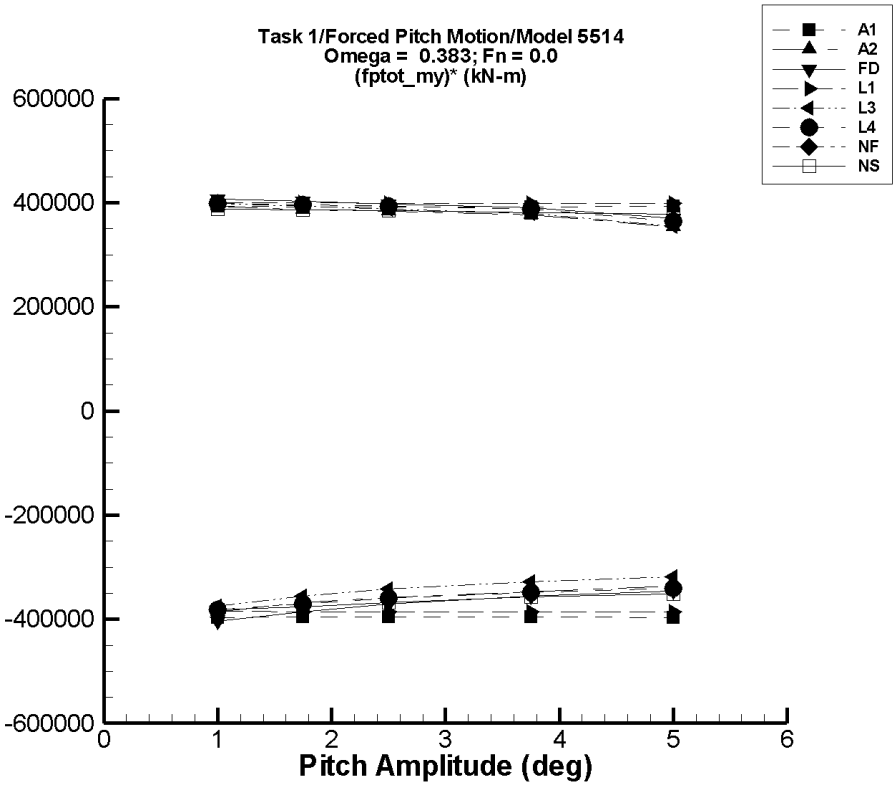

Figure P–20. Minimum and maximum of filtered $\left(M_y^{\text{ptot}} - \langle M_y^{\text{ptot}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–153. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle M_y^{\text{ptot}} \rangle$	**Unfiltered** M_y^{ptot}		**Filtered** M_y^{ptot}		**Filtered** $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	-46.9	-3.97E+05	3.95E+05	-3.98E+05	3.93E+05	-3.98E+05	3.93E+05
1.75	-81.6	-6.91E+05	6.88E+05	-6.93E+05	6.85E+05	-3.96E+05	3.92E+05
2.50	-117.	-9.88E+05	9.83E+05	-9.91E+05	9.80E+05	-3.96E+05	3.92E+05
3.75	-175.	-1.48E+06	1.47E+06	-1.49E+06	1.47E+06	-3.96E+05	3.92E+05
5.00	-234.	-1.98E+06	1.97E+06	-1.98E+06	1.96E+06	-3.97E+05	3.92E+05

Table P–154. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle M_y^{\text{ptot}} \rangle$	**Unfiltered** M_y^{ptot}		**Filtered** M_y^{ptot}		**Filtered** $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	4.85E+03	-3.80E+05	3.99E+05	-3.81E+05	3.98E+05	-3.86E+05	3.93E+05
1.75	1.77E+04	-6.26E+05	6.96E+05	-6.27E+05	6.93E+05	-3.68E+05	3.86E+05
2.50	3.55E+04	-8.61E+05	9.96E+05	-8.63E+05	9.92E+05	-3.59E+05	3.83E+05
3.75	7.00E+04	-1.23E+06	1.49E+06	-1.23E+06	1.48E+06	-3.48E+05	3.76E+05
5.00	9.78E+04	-1.58E+06	1.87E+06	-1.59E+06	1.86E+06	-3.37E+05	3.53E+05

Table P–155. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle M_y^{\text{ptot}} \rangle$	**Unfiltered** M_y^{ptot}		**Filtered** M_y^{ptot}		**Filtered** $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	2.02E+04	-3.83E+05	4.31E+05	-3.81E+05	4.29E+05	-4.02E+05	4.09E+05
1.75	3.24E+04	-6.41E+05	7.43E+05	-6.39E+05	7.40E+05	-3.84E+05	4.04E+05
2.50	5.22E+04	-8.75E+05	1.05E+06	-8.72E+05	1.05E+06	-3.70E+05	3.99E+05
3.75	9.39E+04	-1.24E+06	1.57E+06	-1.24E+06	1.56E+06	-3.55E+05	3.92E+05
5.00	1.24E+05	-1.61E+06	1.98E+06	-1.60E+06	1.98E+06	-3.45E+05	3.70E+05

Table P–156. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle M_y^{\text{ptot}} \rangle$	**Unfiltered** M_y^{ptot}		**Filtered** M_y^{ptot}		**Filtered** $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	199.	-3.93E+05	3.93E+05	-3.92E+05	3.92E+05	-3.93E+05	3.92E+05
1.75	618.	-6.88E+05	6.88E+05	-6.87E+05	6.87E+05	-3.93E+05	3.92E+05
2.50	1.27E+03	-9.83E+05	9.82E+05	-9.81E+05	9.81E+05	-3.93E+05	3.92E+05
3.75	2.86E+03	-1.47E+06	1.47E+06	-1.47E+06	1.47E+06	-3.93E+05	3.92E+05
5.00	5.10E+03	-1.97E+06	1.96E+06	-1.96E+06	1.96E+06	-3.94E+05	3.91E+05

Table P–157. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle M_y^{\text{ptot}} \rangle$	**Unfiltered** M_y^{ptot}		**Filtered** M_y^{ptot}		**Filtered** $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	4.37E+03	-3.78E+05	3.95E+05	-3.78E+05	3.95E+05	-3.82E+05	3.91E+05
1.75	1.71E+04	-6.20E+05	6.92E+05	-6.19E+05	6.92E+05	-3.64E+05	3.85E+05
2.50	3.76E+04	-8.37E+05	9.89E+05	-8.36E+05	9.87E+05	-3.49E+05	3.80E+05
3.75	8.06E+04	-1.18E+06	1.48E+06	-1.18E+06	1.48E+06	-3.35E+05	3.72E+05
5.00	1.14E+05	-1.52E+06	1.85E+06	-1.52E+06	1.85E+06	-3.26E+05	3.47E+05

Table P–158. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle M_y^{\text{ptot}} \rangle$	**Unfiltered** M_y^{ptot}		**Filtered** M_y^{ptot}		**Filtered** $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	2.56E+03	-3.87E+05	3.95E+05	-3.86E+05	3.94E+05	-3.89E+05	3.92E+05
1.75	1.07E+04	-6.51E+05	6.92E+05	-6.50E+05	6.91E+05	-3.78E+05	3.89E+05
2.50	2.58E+04	-8.93E+05	9.90E+05	-8.92E+05	9.89E+05	-3.67E+05	3.85E+05
3.75	5.90E+04	-1.28E+06	1.49E+06	-1.28E+06	1.48E+06	-3.56E+05	3.80E+05
5.00	8.39E+04	-1.66E+06	1.88E+06	-1.66E+06	1.87E+06	-3.48E+05	3.56E+05

Table P–159. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NFA							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–160. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NSHIPMO							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	4.16E+03	-3.81E+05	3.96E+05	-3.78E+05	3.92E+05	-3.82E+05	3.88E+05
1.75	1.04E+04	-6.55E+05	6.95E+05	-6.49E+05	6.88E+05	-3.77E+05	3.87E+05
2.50	2.48E+04	-9.03E+05	9.96E+05	-8.94E+05	9.86E+05	-3.68E+05	3.84E+05
3.75	5.38E+04	-1.29E+06	1.49E+06	-1.29E+06	1.48E+06	-3.57E+05	3.81E+05
5.00	9.08E+04	-1.67E+06	1.99E+06	-1.67E+06	1.98E+06	-3.51E+05	3.78E+05

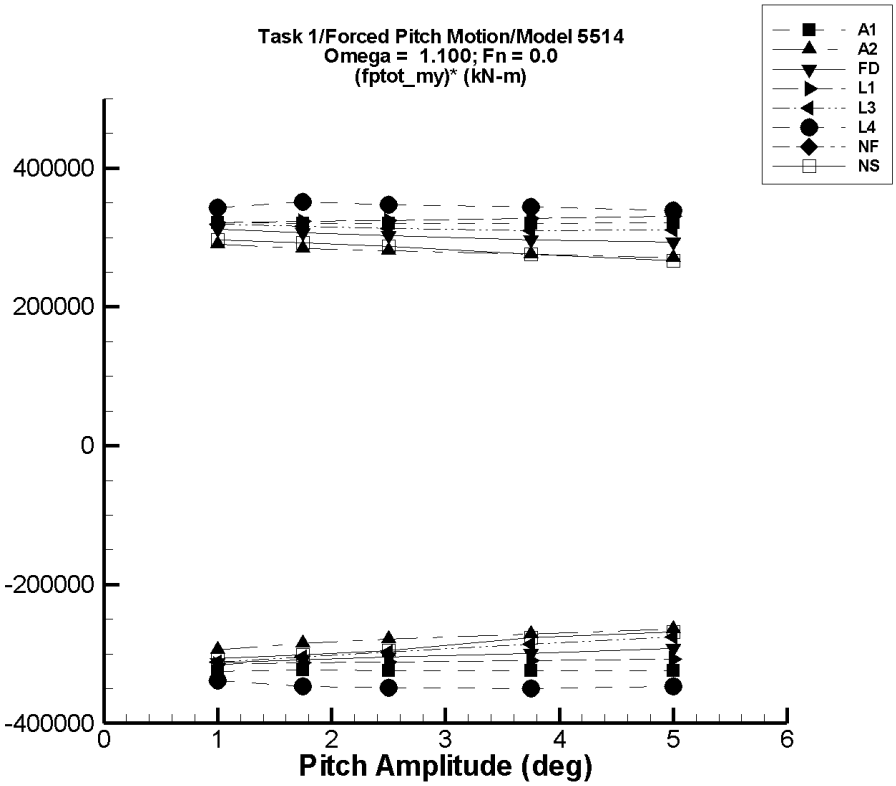

Figure P–21. Minimum and maximum of filtered $\left(M_y^{\text{ptot}} - \langle M_y^{\text{ptot}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–161. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	-270.	-3.50E+05	3.32E+05	-3.25E+05	3.22E+05	-3.24E+05	3.22E+05
1.75	-470.	-6.09E+05	5.78E+05	-5.66E+05	5.61E+05	-3.23E+05	3.21E+05
2.50	-672.	-8.71E+05	8.27E+05	-8.09E+05	8.02E+05	-3.23E+05	3.21E+05
3.75	-1.01E+03	-1.31E+06	1.24E+06	-1.21E+06	1.20E+06	-3.23E+05	3.21E+05
5.00	-1.35E+03	-1.74E+06	1.65E+06	-1.62E+06	1.60E+06	-3.24E+05	3.21E+05

Table P–162. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	4.93E+03	-3.18E+05	3.05E+05	-2.89E+05	2.96E+05	-2.94E+05	2.91E+05
1.75	1.72E+04	-5.22E+05	5.32E+05	-4.80E+05	5.15E+05	-2.84E+05	2.85E+05
2.50	3.49E+04	-7.25E+05	7.60E+05	-6.60E+05	7.37E+05	-2.78E+05	2.81E+05
3.75	6.91E+04	-1.05E+06	1.14E+06	-9.49E+05	1.11E+06	-2.71E+05	2.76E+05
5.00	9.61E+04	-1.37E+06	1.51E+06	-1.23E+06	1.45E+06	-2.64E+05	2.71E+05

Table P–163. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	2.02E+04	-3.03E+05	3.42E+05	-2.92E+05	3.32E+05	-3.12E+05	3.12E+05
1.75	3.24E+04	-5.28E+05	5.86E+05	-5.08E+05	5.69E+05	-3.09E+05	3.07E+05
2.50	5.23E+04	-7.39E+05	8.31E+05	-7.09E+05	8.06E+05	-3.05E+05	3.02E+05
3.75	9.38E+04	-1.07E+06	1.24E+06	-1.03E+06	1.20E+06	-3.00E+05	2.95E+05
5.00	1.23E+05	-1.40E+06	1.64E+06	-1.34E+06	1.58E+06	-2.93E+05	2.92E+05

Table P–164. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	464.	-3.19E+05	3.25E+05	-3.15E+05	3.21E+05	-3.16E+05	3.20E+05
1.75	1.28E+03	-5.55E+05	5.71E+05	-5.49E+05	5.65E+05	-3.14E+05	3.22E+05
2.50	2.49E+03	-7.88E+05	8.21E+05	-7.80E+05	8.12E+05	-3.13E+05	3.24E+05
3.75	5.39E+03	-1.17E+06	1.25E+06	-1.16E+06	1.23E+06	-3.11E+05	3.27E+05
5.00	9.41E+03	-1.55E+06	1.68E+06	-1.53E+06	1.66E+06	-3.09E+05	3.30E+05

Table P–165. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle M_y^{\text{ptot}} \rangle$	**Unfiltered** M_y^{ptot}		**Filtered** M_y^{ptot}		**Filtered** $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	4.63E+03	-3.12E+05	3.26E+05	-3.08E+05	3.23E+05	-3.13E+05	3.18E+05
1.75	1.77E+04	-5.24E+05	5.75E+05	-5.18E+05	5.68E+05	-3.06E+05	3.15E+05
2.50	3.87E+04	-7.16E+05	8.26E+05	-7.09E+05	8.17E+05	-2.99E+05	3.11E+05
3.75	8.28E+04	-1.01E+06	1.25E+06	-9.99E+05	1.24E+06	-2.88E+05	3.08E+05
5.00	1.18E+05	-1.27E+06	1.69E+06	-1.27E+06	1.66E+06	-2.77E+05	3.09E+05

Table P–166. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle M_y^{\text{ptot}} \rangle$	**Unfiltered** M_y^{ptot}		**Filtered** M_y^{ptot}		**Filtered** $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	2.53E+03	-3.66E+05	3.57E+05	-3.37E+05	3.44E+05	-3.39E+05	3.42E+05
1.75	1.15E+04	-6.11E+05	6.77E+05	-5.96E+05	6.25E+05	-3.47E+05	3.51E+05
2.50	2.93E+04	-8.82E+05	9.38E+05	-8.43E+05	8.96E+05	-3.49E+05	3.47E+05
3.75	7.15E+04	-1.32E+06	1.41E+06	-1.24E+06	1.36E+06	-3.50E+05	3.44E+05
5.00	9.79E+04	-1.71E+06	1.95E+06	-1.63E+06	1.80E+06	-3.46E+05	3.40E+05

Table P–167. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NFA							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–168. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NSHIPMO							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	473.	-3.09E+05	2.99E+05	-3.06E+05	2.97E+05	-3.06E+05	2.96E+05
1.75	-8.88E+03	-5.46E+05	5.06E+05	-5.36E+05	5.02E+05	-3.01E+05	2.92E+05
2.50	-7.02E+03	-7.55E+05	7.16E+05	-7.46E+05	7.10E+05	-2.96E+05	2.87E+05
3.75	-1.95E+04	-1.07E+06	1.02E+06	-1.06E+06	1.01E+06	-2.77E+05	2.76E+05
5.00	-1.08E+04	-1.36E+06	1.51E+06	-1.35E+06	1.32E+06	-2.68E+05	2.66E+05

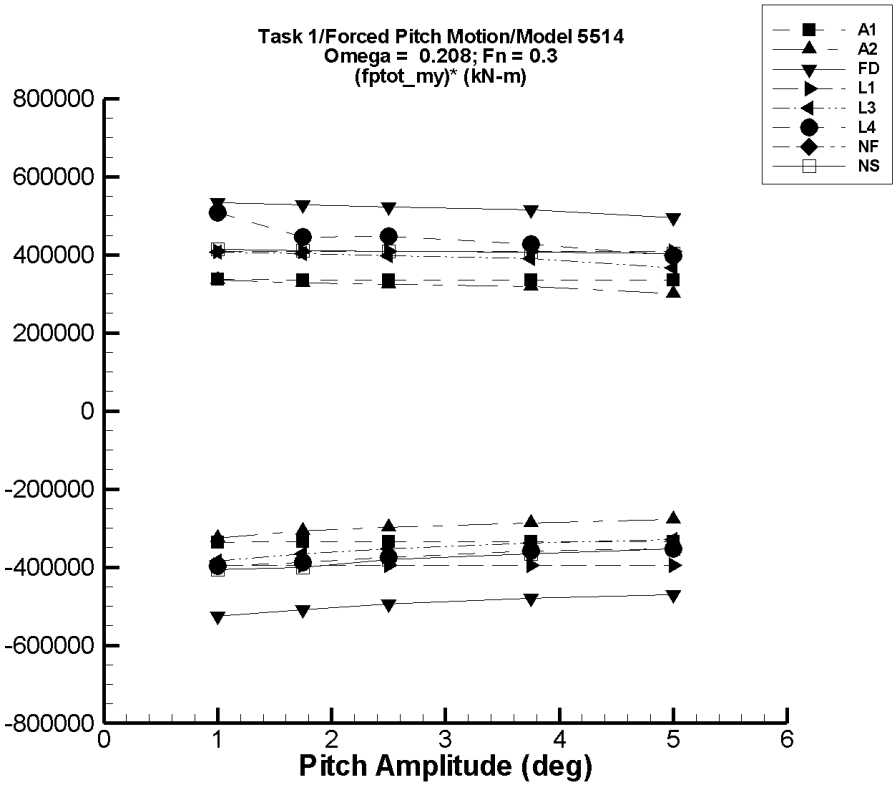

Figure P–22. Minimum and maximum of filtered $\left(M_y^{\text{ptot}} - \langle M_y^{\text{ptot}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–169. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	-328.	-3.44E+05	3.44E+05	-3.36E+05	3.36E+05	-3.36E+05	3.36E+05
1.75	-573.	-6.00E+05	5.99E+05	-5.86E+05	5.85E+05	-3.35E+05	3.35E+05
2.50	-819.	-8.57E+05	8.56E+05	-8.38E+05	8.37E+05	-3.35E+05	3.35E+05
3.75	-1.23E+03	-1.29E+06	1.28E+06	-1.26E+06	1.26E+06	-3.35E+05	3.35E+05
5.00	-1.64E+03	-1.72E+06	1.71E+06	-1.68E+06	1.68E+06	-3.35E+05	3.35E+05

Table P–170. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	4.88E+03	-3.27E+05	3.46E+05	-3.20E+05	3.39E+05	-3.25E+05	3.34E+05
1.75	1.70E+04	-5.35E+05	6.03E+05	-5.21E+05	5.91E+05	-3.07E+05	3.28E+05
2.50	3.48E+04	-7.32E+05	8.63E+05	-7.12E+05	8.46E+05	-2.99E+05	3.25E+05
3.75	6.88E+04	-1.04E+06	1.29E+06	-1.01E+06	1.26E+06	-2.88E+05	3.19E+05
5.00	9.69E+04	-1.33E+06	1.65E+06	-1.29E+06	1.59E+06	-2.77E+05	3.00E+05

Table P–171. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle M_y^{\text{ptot}} \rangle$	**Unfiltered** M_y^{ptot}		**Filtered** M_y^{ptot}		**Filtered** $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	2.02E+04	-5.06E+05	5.54E+05	-5.06E+05	5.54E+05	-5.26E+05	5.34E+05
1.75	3.25E+04	-8.58E+05	9.59E+05	-8.58E+05	9.58E+05	-5.09E+05	5.29E+05
2.50	5.24E+04	-1.19E+06	1.36E+06	-1.18E+06	1.36E+06	-4.95E+05	5.23E+05
3.75	9.42E+04	-1.71E+06	2.03E+06	-1.71E+06	2.03E+06	-4.80E+05	5.16E+05
5.00	1.24E+05	-2.23E+06	2.60E+06	-2.22E+06	2.60E+06	-4.70E+05	4.95E+05

Table P–172. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle M_y^{\text{ptot}} \rangle$	**Unfiltered** M_y^{ptot}		**Filtered** M_y^{ptot}		**Filtered** $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	4.35E+04	-3.59E+05	4.45E+05	-3.59E+05	4.45E+05	-4.02E+05	4.02E+05
1.75	4.35E+04	-6.61E+05	7.47E+05	-6.61E+05	7.46E+05	-4.03E+05	4.02E+05
2.50	4.36E+04	-9.64E+05	1.05E+06	-9.63E+05	1.05E+06	-4.03E+05	4.01E+05
3.75	4.37E+04	-1.47E+06	1.55E+06	-1.47E+06	1.55E+06	-4.03E+05	4.01E+05
5.00	4.39E+04	-1.97E+06	2.05E+06	-1.97E+06	2.05E+06	-4.03E+05	4.01E+05

Table P–173. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle M_y^{\text{ptot}} \rangle$	**Unfiltered** M_y^{ptot}		**Filtered** M_y^{ptot}		**Filtered** $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	4.77E+04	-3.45E+05	4.48E+05	-3.44E+05	4.48E+05	-3.92E+05	4.00E+05
1.75	6.00E+04	-5.95E+05	7.51E+05	-5.94E+05	7.51E+05	-3.74E+05	3.95E+05
2.50	7.99E+04	-8.20E+05	1.05E+06	-8.20E+05	1.05E+06	-3.60E+05	3.89E+05
3.75	1.22E+05	-1.18E+06	1.55E+06	-1.18E+06	1.55E+06	-3.46E+05	3.82E+05
5.00	1.54E+05	-1.53E+06	1.95E+06	-1.53E+06	1.95E+06	-3.37E+05	3.59E+05

Table P–174. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle M_y^{\text{ptot}} \rangle$	**Unfiltered** M_y^{ptot}		**Filtered** M_y^{ptot}		**Filtered** $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	3.94E+04	-3.88E+05	5.43E+05	-3.66E+05	5.39E+05	-4.05E+05	5.00E+05
1.75	3.74E+04	-6.54E+05	8.07E+05	-6.53E+05	8.04E+05	-3.95E+05	4.38E+05
2.50	4.67E+04	-9.36E+05	1.15E+06	-9.08E+05	1.14E+06	-3.82E+05	4.39E+05
3.75	6.82E+04	-1.33E+06	1.65E+06	-1.31E+06	1.64E+06	-3.67E+05	4.20E+05
5.00	8.30E+04	-1.74E+06	2.04E+06	-1.72E+06	2.03E+06	-3.60E+05	3.90E+05

Table P–175. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NFA							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–176. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NSHIPMO							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	9.72E+03	-4.00E+05	4.29E+05	-3.96E+05	4.24E+05	-4.06E+05	4.15E+05
1.75	3.59E+04	-6.71E+05	7.62E+05	-6.66E+05	7.54E+05	-4.01E+05	4.10E+05
2.50	6.04E+04	-8.98E+05	1.09E+06	-8.90E+05	1.08E+06	-3.80E+05	4.09E+05
3.75	1.10E+05	-1.27E+06	1.65E+06	-1.26E+06	1.64E+06	-3.65E+05	4.08E+05
5.00	1.66E+05	-1.60E+06	2.19E+06	-1.60E+06	2.19E+06	-3.52E+05	4.04E+05

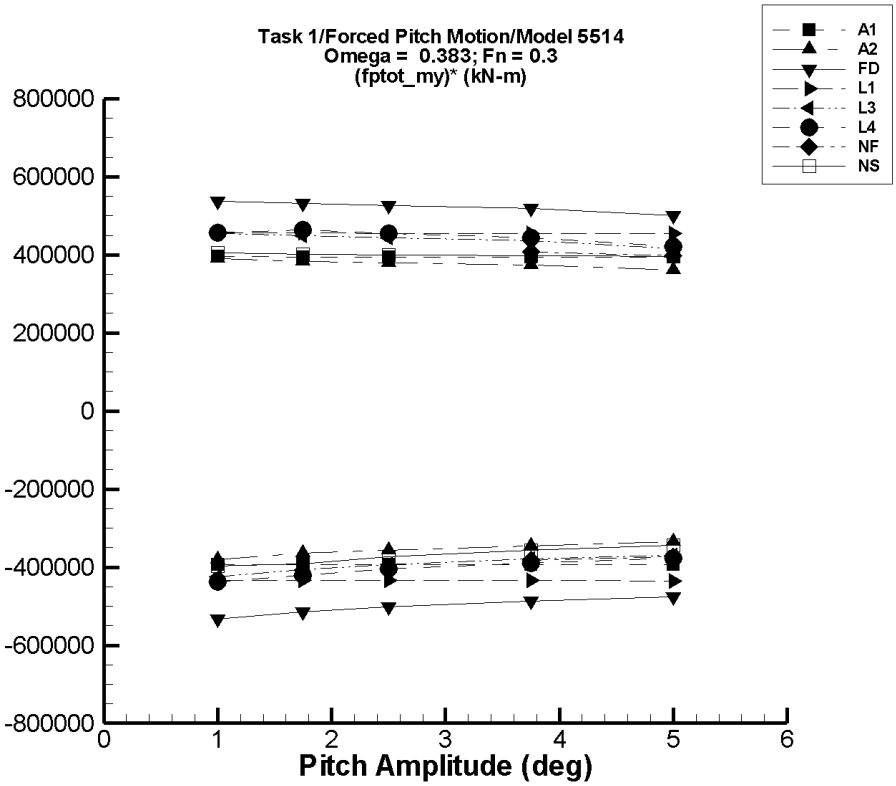

Figure P–23. Minimum and maximum of filtered $\left(M_y^{\text{ptot}} - \langle M_y^{\text{ptot}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–177. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	179.	-4.08E+05	3.97E+05	-3.95E+05	3.95E+05	-3.95E+05	3.95E+05
1.75	313.	-7.12E+05	6.91E+05	-6.88E+05	6.88E+05	-3.93E+05	3.93E+05
2.50	447.	-1.02E+06	9.88E+05	-9.83E+05	9.84E+05	-3.93E+05	3.94E+05
3.75	670.	-1.53E+06	1.48E+06	-1.47E+06	1.48E+06	-3.93E+05	3.94E+05
5.00	895.	-2.04E+06	1.98E+06	-1.97E+06	1.97E+06	-3.94E+05	3.94E+05

Table P–178. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	5.08E+03	-3.90E+05	3.96E+05	-3.76E+05	3.95E+05	-3.81E+05	3.90E+05
1.75	1.81E+04	-6.44E+05	6.91E+05	-6.21E+05	6.88E+05	-3.65E+05	3.83E+05
2.50	3.61E+04	-8.88E+05	9.89E+05	-8.55E+05	9.85E+05	-3.56E+05	3.80E+05
3.75	7.08E+04	-1.28E+06	1.48E+06	-1.23E+06	1.47E+06	-3.47E+05	3.74E+05
5.00	9.89E+04	-1.64E+06	1.92E+06	-1.58E+06	1.90E+06	-3.36E+05	3.61E+05

Table P–179. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	2.02E+04	-5.13E+05	5.60E+05	-5.11E+05	5.58E+05	-5.31E+05	5.38E+05
1.75	3.24E+04	-8.70E+05	9.69E+05	-8.67E+05	9.65E+05	-5.14E+05	5.33E+05
2.50	5.22E+04	-1.20E+06	1.38E+06	-1.20E+06	1.37E+06	-5.00E+05	5.28E+05
3.75	9.39E+04	-1.73E+06	2.05E+06	-1.73E+06	2.05E+06	-4.86E+05	5.21E+05
5.00	1.24E+05	-2.26E+06	2.64E+06	-2.25E+06	2.63E+06	-4.75E+05	5.02E+05

Table P–180. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	4.36E+04	-4.02E+05	4.89E+05	-4.02E+05	4.88E+05	-4.45E+05	4.44E+05
1.75	4.39E+04	-7.37E+05	8.22E+05	-7.36E+05	8.21E+05	-4.45E+05	4.44E+05
2.50	4.42E+04	-1.07E+06	1.16E+06	-1.07E+06	1.15E+06	-4.46E+05	4.44E+05
3.75	4.52E+04	-1.63E+06	1.71E+06	-1.63E+06	1.71E+06	-4.46E+05	4.43E+05
5.00	4.65E+04	-2.19E+06	2.26E+06	-2.19E+06	2.26E+06	-4.47E+05	4.43E+05

Table P–181. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle M_y^{\text{ptot}} \rangle$	**Unfiltered** M_y^{ptot}		**Filtered** M_y^{ptot}		**Filtered** $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	4.78E+04	-3.88E+05	4.91E+05	-3.88E+05	4.91E+05	-4.35E+05	4.43E+05
1.75	6.03E+04	-6.72E+05	8.27E+05	-6.71E+05	8.26E+05	-4.18E+05	4.37E+05
2.50	8.06E+04	-9.31E+05	1.16E+06	-9.30E+05	1.16E+06	-4.04E+05	4.32E+05
3.75	1.23E+05	-1.34E+06	1.72E+06	-1.34E+06	1.71E+06	-3.90E+05	4.24E+05
5.00	1.56E+05	-1.75E+06	2.18E+06	-1.75E+06	2.18E+06	-3.82E+05	4.04E+05

Table P–182. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle M_y^{\text{ptot}} \rangle$	**Unfiltered** M_y^{ptot}		**Filtered** M_y^{ptot}		**Filtered** $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	4.00E+04	-4.33E+05	4.88E+05	-4.08E+05	4.84E+05	-4.48E+05	4.44E+05
1.75	4.21E+04	-7.28E+05	8.39E+05	-7.16E+05	8.35E+05	-4.33E+05	4.53E+05
2.50	5.40E+04	-1.02E+06	1.18E+06	-9.87E+05	1.16E+06	-4.16E+05	4.43E+05
3.75	8.79E+04	-1.44E+06	1.71E+06	-1.41E+06	1.71E+06	-4.01E+05	4.32E+05
5.00	1.12E+05	-1.86E+06	2.19E+06	-1.83E+06	2.17E+06	-3.88E+05	4.12E+05

Table P–183. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NFA							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	-1.19E+04	-1.01E+06	1.03E+06	-1.01E+06	1.02E+06	-3.98E+05	4.14E+05
3.75	5.63E+03	-1.44E+06	1.54E+06	-1.43E+06	1.53E+06	-3.83E+05	4.07E+05
5.00	2.79E+04	-1.85E+06	2.03E+06	-1.84E+06	2.02E+06	-3.73E+05	3.98E+05

Table P–184. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NSHIPMO							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	6.26E+03	-3.94E+05	4.15E+05	-3.90E+05	4.11E+05	-3.96E+05	4.04E+05
1.75	3.08E+04	-6.63E+05	7.40E+05	-6.56E+05	7.32E+05	-3.92E+05	4.01E+05
2.50	5.04E+04	-8.91E+05	1.06E+06	-8.83E+05	1.05E+06	-3.73E+05	3.99E+05
3.75	9.18E+04	-1.25E+06	1.59E+06	-1.25E+06	1.58E+06	-3.57E+05	3.97E+05
5.00	1.44E+05	-1.58E+06	2.13E+06	-1.57E+06	2.12E+06	-3.43E+05	3.95E+05

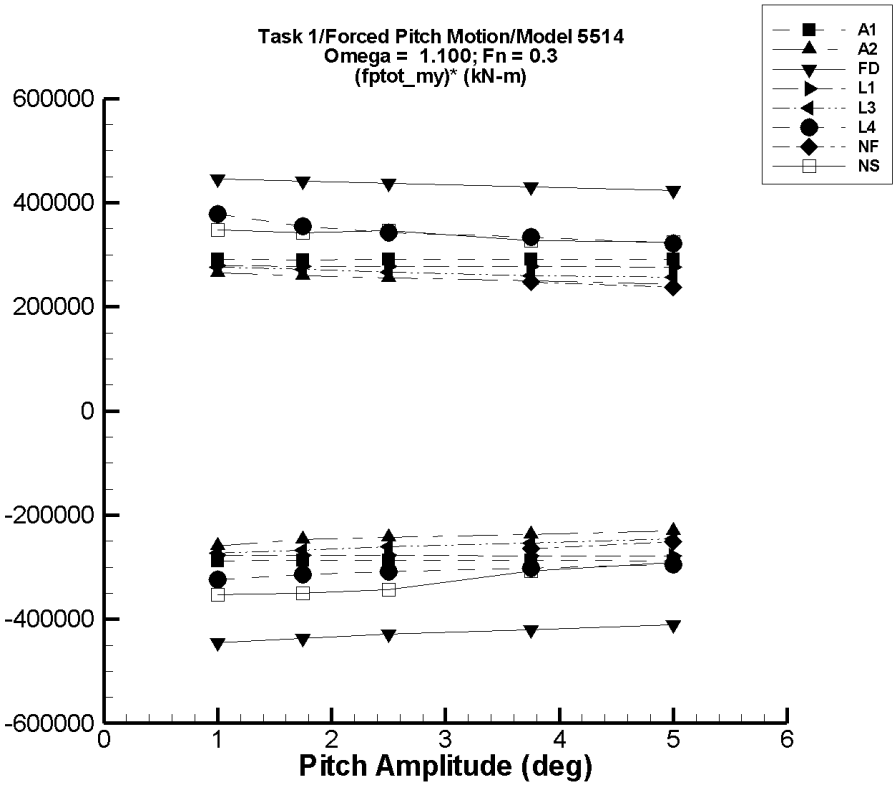

Figure P–24. Minimum and maximum of filtered $\left(M_y^{\text{ptot}} - \langle M_y^{\text{ptot}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–185. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	-1.77E+03	-3.26E+05	3.00E+05	-2.90E+05	2.90E+05	-2.88E+05	2.92E+05
1.75	-3.08E+03	-5.69E+05	5.22E+05	-5.05E+05	5.06E+05	-2.87E+05	2.91E+05
2.50	-4.41E+03	-8.13E+05	7.46E+05	-7.22E+05	7.23E+05	-2.87E+05	2.91E+05
3.75	-6.61E+03	-1.22E+06	1.12E+06	-1.08E+06	1.09E+06	-2.87E+05	2.91E+05
5.00	-8.83E+03	-1.63E+06	1.49E+06	-1.44E+06	1.45E+06	-2.87E+05	2.91E+05

Table P–186. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	3.43E+03	-2.83E+05	2.78E+05	-2.56E+05	2.69E+05	-2.59E+05	2.65E+05
1.75	1.46E+04	-4.82E+05	4.84E+05	-4.18E+05	4.69E+05	-2.47E+05	2.59E+05
2.50	3.12E+04	-6.67E+05	6.92E+05	-5.74E+05	6.71E+05	-2.42E+05	2.56E+05
3.75	6.35E+04	-9.63E+05	1.04E+06	-8.23E+05	1.00E+06	-2.36E+05	2.51E+05
5.00	8.86E+04	-1.26E+06	1.37E+06	-1.06E+06	1.31E+06	-2.30E+05	2.43E+05

Table P–187. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	2.02E+04	-4.39E+05	4.81E+05	-4.24E+05	4.67E+05	-4.45E+05	4.47E+05
1.75	3.24E+04	-7.57E+05	8.30E+05	-7.33E+05	8.05E+05	-4.37E+05	4.42E+05
2.50	5.23E+04	-1.06E+06	1.18E+06	-1.02E+06	1.14E+06	-4.29E+05	4.36E+05
3.75	9.38E+04	-1.53E+06	1.76E+06	-1.48E+06	1.71E+06	-4.21E+05	4.30E+05
5.00	1.23E+05	-1.99E+06	2.34E+06	-1.94E+06	2.24E+06	-4.12E+05	4.22E+05

Table P–188. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	4.47E+04	-2.37E+05	3.25E+05	-2.33E+05	3.22E+05	-2.78E+05	2.77E+05
1.75	4.68E+04	-4.46E+05	5.37E+05	-4.41E+05	5.32E+05	-2.79E+05	2.77E+05
2.50	5.01E+04	-6.55E+05	7.50E+05	-6.47E+05	7.42E+05	-2.79E+05	2.77E+05
3.75	5.81E+04	-1.00E+06	1.11E+06	-9.90E+05	1.09E+06	-2.79E+05	2.76E+05
5.00	6.93E+04	-1.35E+06	1.46E+06	-1.33E+06	1.45E+06	-2.80E+05	2.76E+05

Table P–189. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle M_y^{\text{ptot}} \rangle$	**Unfiltered** M_y^{ptot}		**Filtered** M_y^{ptot}		**Filtered** $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	4.89E+04	-2.29E+05	3.27E+05	-2.26E+05	3.24E+05	-2.75E+05	2.75E+05
1.75	6.33E+04	-4.13E+05	5.41E+05	-4.07E+05	5.36E+05	-2.69E+05	2.70E+05
2.50	8.63E+04	-5.79E+05	7.55E+05	-5.72E+05	7.48E+05	-2.63E+05	2.64E+05
3.75	1.35E+05	-8.33E+05	1.11E+06	-8.24E+05	1.10E+06	-2.56E+05	2.57E+05
5.00	1.78E+05	-1.07E+06	1.47E+06	-1.06E+06	1.45E+06	-2.48E+05	2.55E+05

Table P–190. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle M_y^{\text{ptot}} \rangle$	**Unfiltered** M_y^{ptot}		**Filtered** M_y^{ptot}		**Filtered** $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	3.17E+04	-3.40E+05	4.42E+05	-2.93E+05	4.09E+05	-3.25E+05	3.78E+05
1.75	3.00E+04	-5.62E+05	6.90E+05	-5.19E+05	6.51E+05	-3.14E+05	3.55E+05
2.50	4.17E+04	-7.77E+05	9.29E+05	-7.31E+05	8.97E+05	-3.09E+05	3.42E+05
3.75	7.47E+04	-1.12E+06	1.42E+06	-1.06E+06	1.33E+06	-3.01E+05	3.34E+05
5.00	9.35E+04	-1.44E+06	1.78E+06	-1.38E+06	1.70E+06	-2.94E+05	3.22E+05

Table P–191. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NFA							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	-3.85E+04	-7.59E+05	6.36E+05	-7.26E+05	5.98E+05	-2.75E+05	2.55E+05
3.75	-2.87E+04	-1.06E+06	9.43E+05	-1.02E+06	9.01E+05	-2.64E+05	2.48E+05
5.00	-3.22E+04	-1.33E+06	1.22E+06	-1.29E+06	1.15E+06	-2.52E+05	2.37E+05

Table P–192. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NSHIPMO							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	-1.20E+04	-3.69E+05	3.40E+05	-3.65E+05	3.36E+05	-3.53E+05	3.48E+05
1.75	1.19E+04	-6.17E+05	6.20E+05	-6.02E+05	6.12E+05	-3.51E+05	3.43E+05
2.50	6.17E+03	-8.59E+05	8.92E+05	-8.51E+05	8.74E+05	-3.43E+05	3.47E+05
3.75	-1.88E+03	-1.17E+06	1.24E+06	-1.15E+06	1.23E+06	-3.07E+05	3.28E+05
5.00	2.03E+04	-1.44E+06	1.76E+06	-1.43E+06	1.64E+06	-2.91E+05	3.24E+05

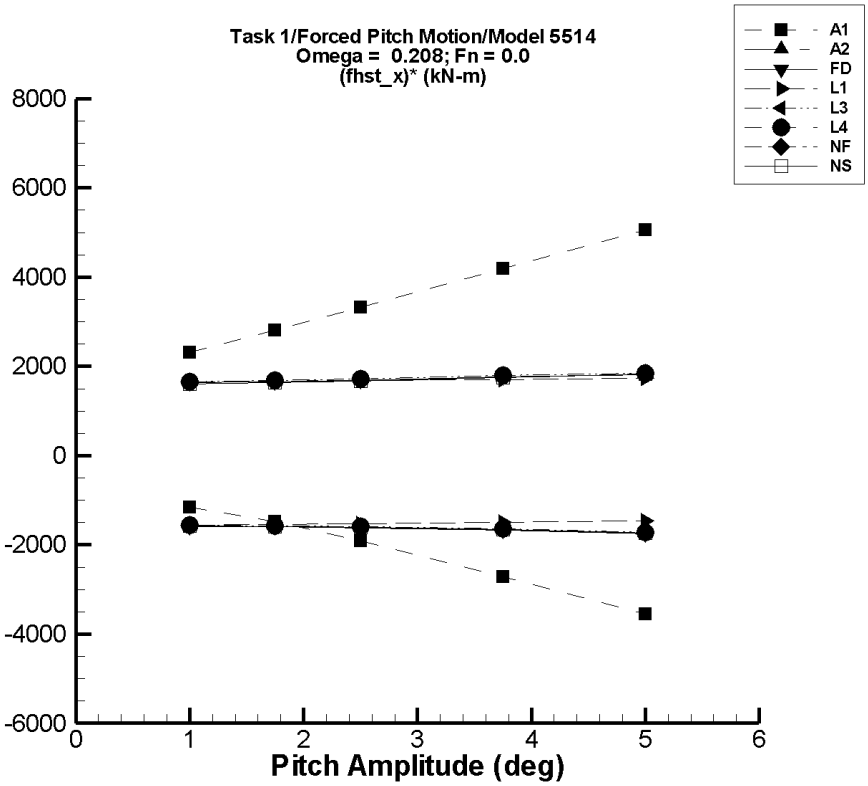

Figure P–25. Minimum and maximum of filtered $\left(F_x^{\text{hst}} - \langle F_x^{\text{hst}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–193. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	699.	-463.	3.01E+03	-461.	3.00E+03	-1.16E+03	2.30E+03
1.75	2.12E+03	-463.	7.05E+03	-455.	7.04E+03	-1.47E+03	2.81E+03
2.50	4.34E+03	-463.	1.27E+04	-446.	1.27E+04	-1.91E+03	3.33E+03
3.75	9.76E+03	-463.	2.55E+04	-421.	2.55E+04	-2.72E+03	4.19E+03
5.00	1.74E+04	-463.	4.28E+04	-388.	4.27E+04	-3.56E+03	5.06E+03

Table P–194. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	63.5	-1.53E+03	1.70E+03	-1.53E+03	1.70E+03	-1.60E+03	1.64E+03
1.75	93.0	-2.69E+03	2.99E+03	-2.69E+03	2.99E+03	-1.59E+03	1.66E+03
2.50	144.	-3.91E+03	4.35E+03	-3.91E+03	4.35E+03	-1.62E+03	1.68E+03
3.75	214.	-6.08E+03	6.79E+03	-6.08E+03	6.78E+03	-1.68E+03	1.75E+03
5.00	307.	-8.48E+03	9.38E+03	-8.47E+03	9.36E+03	-1.76E+03	1.81E+03

Table P–195. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-2.14	-1.60E+03	1.63E+03	-1.59E+03	1.63E+03	-1.59E+03	1.63E+03
1.75	33.6	-2.77E+03	2.94E+03	-2.76E+03	2.93E+03	-1.60E+03	1.66E+03
2.50	82.5	-3.97E+03	4.31E+03	-3.96E+03	4.31E+03	-1.62E+03	1.69E+03
3.75	185.	-6.09E+03	6.80E+03	-6.08E+03	6.79E+03	-1.67E+03	1.76E+03
5.00	287.	-8.44E+03	9.38E+03	-8.43E+03	9.36E+03	-1.74E+03	1.82E+03

Table P–196. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	19.4	-1.56E+03	1.64E+03	-1.56E+03	1.64E+03	-1.58E+03	1.62E+03
1.75	59.3	-2.69E+03	2.92E+03	-2.68E+03	2.92E+03	-1.57E+03	1.64E+03
2.50	121.	-3.76E+03	4.25E+03	-3.76E+03	4.24E+03	-1.55E+03	1.65E+03
3.75	272.	-5.46E+03	6.55E+03	-5.46E+03	6.55E+03	-1.53E+03	1.67E+03
5.00	483.	-7.03E+03	8.97E+03	-7.03E+03	8.96E+03	-1.50E+03	1.70E+03

Table P–197. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	2.69	-1.59E+03	1.63E+03	-1.59E+03	1.63E+03	-1.59E+03	1.63E+03
1.75	37.5	-2.77E+03	2.94E+03	-2.76E+03	2.94E+03	-1.60E+03	1.66E+03
2.50	85.2	-3.97E+03	4.31E+03	-3.97E+03	4.31E+03	-1.62E+03	1.69E+03
3.75	185.	-6.10E+03	6.79E+03	-6.10E+03	6.79E+03	-1.68E+03	1.76E+03
5.00	285.	-8.47E+03	9.37E+03	-8.47E+03	9.36E+03	-1.75E+03	1.82E+03

Table P–198. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	2.69	-1.59E+03	1.63E+03	-1.59E+03	1.63E+03	-1.59E+03	1.63E+03
1.75	37.5	-2.77E+03	2.94E+03	-2.76E+03	2.94E+03	-1.60E+03	1.66E+03
2.50	85.2	-3.97E+03	4.31E+03	-3.97E+03	4.31E+03	-1.62E+03	1.69E+03
3.75	185.	-6.10E+03	6.79E+03	-6.10E+03	6.79E+03	-1.68E+03	1.76E+03
5.00	285.	-8.47E+03	9.37E+03	-8.47E+03	9.36E+03	-1.75E+03	1.82E+03

Table P–199. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NFA							
	$\langle \boldsymbol{F_x^{\text{hst}}} \rangle$	**Unfiltered** $\boldsymbol{F_x^{\text{hst}}}$		**Filtered** $\boldsymbol{F_x^{\text{hst}}}$		**Filtered** $\left(\boldsymbol{F_x^{\text{hst}}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–200. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NSHIPMO							
	$\langle \boldsymbol{F_x^{\text{hst}}} \rangle$	**Unfiltered** $\boldsymbol{F_x^{\text{hst}}}$		**Filtered** $\boldsymbol{F_x^{\text{hst}}}$		**Filtered** $\left(\boldsymbol{F_x^{\text{hst}}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	16.4	-1.58E+03	1.64E+03	-1.56E+03	1.63E+03	-1.58E+03	1.61E+03
1.75	47.9	-2.76E+03	2.94E+03	-2.73E+03	2.91E+03	-1.59E+03	1.64E+03
2.50	90.9	-3.96E+03	4.31E+03	-3.92E+03	4.26E+03	-1.60E+03	1.67E+03
3.75	181.	-6.08E+03	6.76E+03	-6.04E+03	6.71E+03	-1.66E+03	1.74E+03
5.00	287.	-8.42E+03	9.47E+03	-8.38E+03	9.43E+03	-1.73E+03	1.83E+03

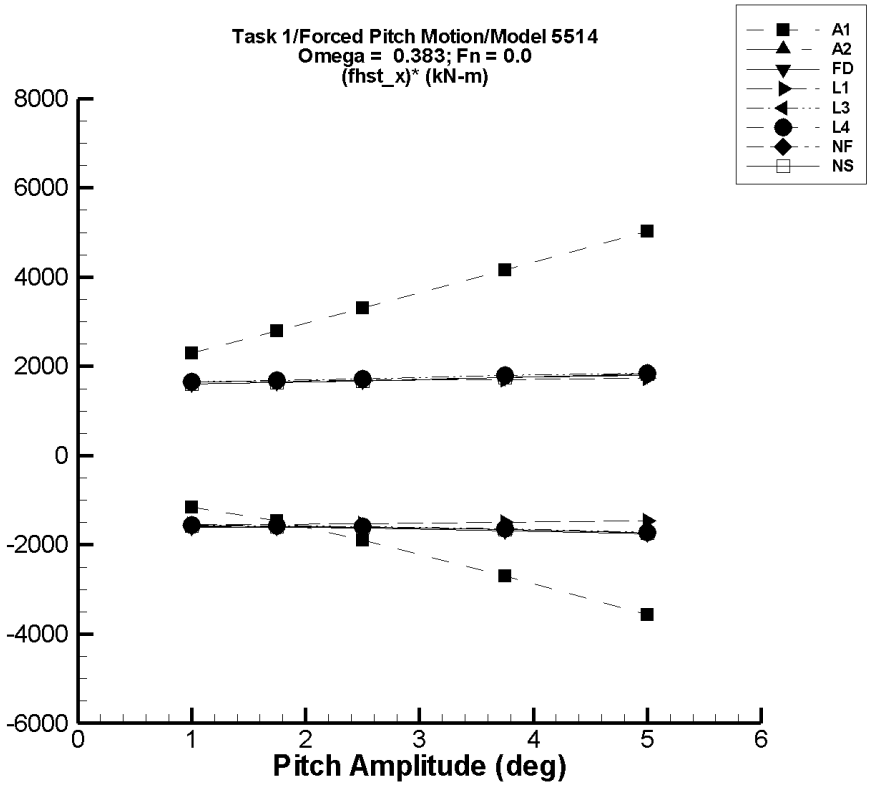

Figure P–26. Minimum and maximum of filtered $\left(F_x^{\text{hst}} - \langle F_x^{\text{hst}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–201. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	699.	-463.	3.01E+03	-456.	2.99E+03	-1.16E+03	2.29E+03
1.75	2.12E+03	-463.	7.05E+03	-435.	7.01E+03	-1.46E+03	2.79E+03
2.50	4.34E+03	-463.	1.27E+04	-402.	1.26E+04	-1.90E+03	3.31E+03
3.75	9.76E+03	-463.	2.55E+04	-360.	2.54E+04	-2.70E+03	4.16E+03
5.00	1.74E+04	-463.	4.28E+04	-457.	4.25E+04	-3.57E+03	5.02E+03

Table P–202. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	48.9	-2.51E+03	1.70E+03	-1.54E+03	1.70E+03	-1.59E+03	1.65E+03
1.75	101.	-2.69E+03	2.99E+03	-2.69E+03	2.98E+03	-1.60E+03	1.65E+03
2.50	144.	-3.91E+03	4.35E+03	-3.92E+03	4.34E+03	-1.63E+03	1.68E+03
3.75	220.	-6.08E+03	6.79E+03	-6.09E+03	6.76E+03	-1.68E+03	1.74E+03
5.00	302.	-8.48E+03	9.38E+03	-8.49E+03	9.33E+03	-1.76E+03	1.81E+03

Table P–203. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-2.13	-1.60E+03	1.63E+03	-1.59E+03	1.62E+03	-1.59E+03	1.63E+03
1.75	33.7	-2.77E+03	2.94E+03	-2.76E+03	2.92E+03	-1.60E+03	1.65E+03
2.50	82.8	-3.97E+03	4.31E+03	-3.95E+03	4.30E+03	-1.61E+03	1.69E+03
3.75	186.	-6.09E+03	6.80E+03	-6.06E+03	6.77E+03	-1.67E+03	1.76E+03
5.00	290.	-8.44E+03	9.37E+03	-8.41E+03	9.34E+03	-1.74E+03	1.81E+03

Table P–204. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	19.3	-1.56E+03	1.64E+03	-1.56E+03	1.64E+03	-1.58E+03	1.62E+03
1.75	59.3	-2.68E+03	2.92E+03	-2.68E+03	2.92E+03	-1.57E+03	1.63E+03
2.50	121.	-3.76E+03	4.25E+03	-3.76E+03	4.24E+03	-1.55E+03	1.65E+03
3.75	272.	-5.46E+03	6.55E+03	-5.45E+03	6.54E+03	-1.53E+03	1.67E+03
5.00	483.	-7.03E+03	8.97E+03	-7.03E+03	8.95E+03	-1.50E+03	1.69E+03

Table P–205. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	2.67	-1.59E+03	1.63E+03	-1.59E+03	1.63E+03	-1.59E+03	1.63E+03
1.75	37.4	-2.77E+03	2.94E+03	-2.76E+03	2.93E+03	-1.60E+03	1.65E+03
2.50	85.0	-3.97E+03	4.31E+03	-3.96E+03	4.31E+03	-1.62E+03	1.69E+03
3.75	185.	-6.10E+03	6.79E+03	-6.09E+03	6.78E+03	-1.67E+03	1.76E+03
5.00	283.	-8.47E+03	9.37E+03	-8.46E+03	9.35E+03	-1.75E+03	1.81E+03

Table P–206. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	2.67	-1.59E+03	1.63E+03	-1.59E+03	1.63E+03	-1.59E+03	1.63E+03
1.75	37.4	-2.77E+03	2.94E+03	-2.76E+03	2.93E+03	-1.60E+03	1.65E+03
2.50	85.0	-3.97E+03	4.31E+03	-3.96E+03	4.31E+03	-1.62E+03	1.69E+03
3.75	185.	-6.10E+03	6.79E+03	-6.09E+03	6.78E+03	-1.67E+03	1.76E+03
5.00	283.	-8.47E+03	9.37E+03	-8.46E+03	9.35E+03	-1.75E+03	1.81E+03

Table P–207. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NFA							
	$\langle \boldsymbol{F_x^{\text{hst}}} \rangle$	**Unfiltered** $\boldsymbol{F_x^{\text{hst}}}$		**Filtered** $\boldsymbol{F_x^{\text{hst}}}$		**Filtered** $\left(\boldsymbol{F_x^{\text{hst}}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–208. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NSHIPMO							
	$\langle \boldsymbol{F_x^{\text{hst}}} \rangle$	**Unfiltered** $\boldsymbol{F_x^{\text{hst}}}$		**Filtered** $\boldsymbol{F_x^{\text{hst}}}$		**Filtered** $\left(\boldsymbol{F_x^{\text{hst}}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	16.4	-1.58E+03	1.64E+03	-1.56E+03	1.63E+03	-1.58E+03	1.61E+03
1.75	47.9	-2.76E+03	2.94E+03	-2.73E+03	2.91E+03	-1.59E+03	1.64E+03
2.50	90.9	-3.96E+03	4.31E+03	-3.92E+03	4.26E+03	-1.60E+03	1.67E+03
3.75	181.	-6.08E+03	6.76E+03	-6.04E+03	6.71E+03	-1.66E+03	1.74E+03
5.00	287.	-8.42E+03	9.47E+03	-8.38E+03	9.43E+03	-1.73E+03	1.83E+03

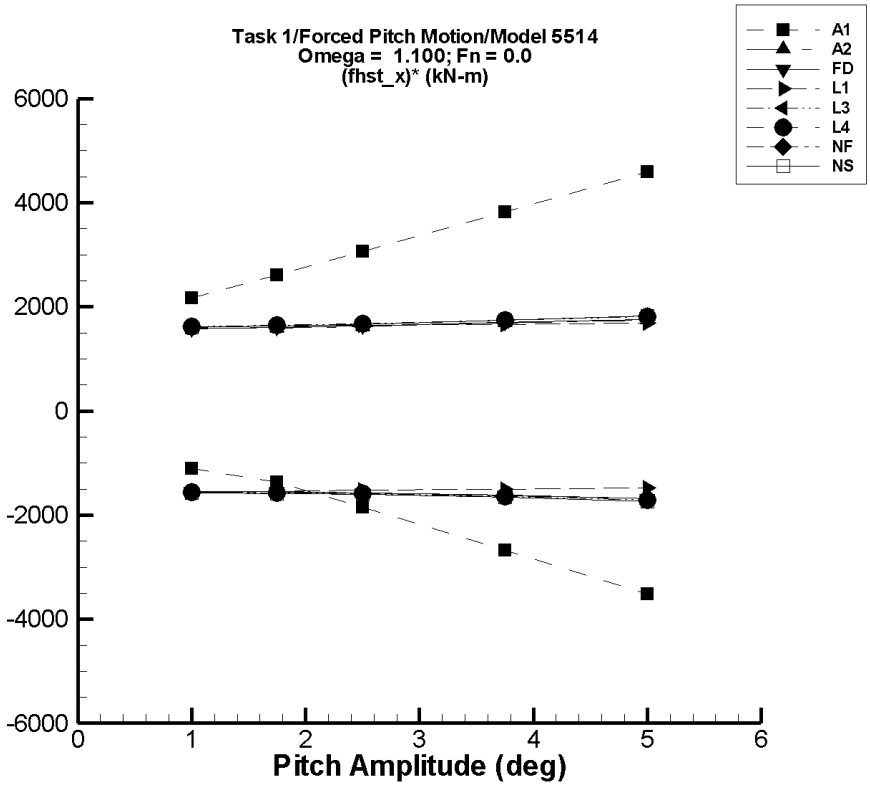

Figure P–27. Minimum and maximum of filtered $\left(F_x^{\text{hst}} - \langle F_x^{\text{hst}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–209. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	699.	-462.	3.00E+03	-410.	2.87E+03	-1.11E+03	2.17E+03
1.75	2.12E+03	-463.	7.04E+03	-267.	6.70E+03	-1.37E+03	2.61E+03
2.50	4.34E+03	-463.	1.27E+04	-280.	1.20E+04	-1.85E+03	3.07E+03
3.75	9.76E+03	-462.	2.55E+04	-280.	2.41E+04	-2.68E+03	3.83E+03
5.00	1.74E+04	-462.	4.27E+04	-184.	4.04E+04	-3.52E+03	4.60E+03

Table P–210. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	63.3	-1.53E+03	1.70E+03	-1.50E+03	1.65E+03	-1.56E+03	1.59E+03
1.75	101.	-2.69E+03	2.99E+03	-2.62E+03	2.90E+03	-1.55E+03	1.60E+03
2.50	143.	-3.91E+03	4.35E+03	-3.80E+03	4.21E+03	-1.58E+03	1.63E+03
3.75	220.	-6.08E+03	6.78E+03	-5.90E+03	6.55E+03	-1.63E+03	1.69E+03
5.00	283.	-8.47E+03	9.38E+03	-8.16E+03	9.04E+03	-1.69E+03	1.75E+03

Table P–211. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	-2.12	-1.60E+03	1.63E+03	-1.55E+03	1.58E+03	-1.55E+03	1.58E+03
1.75	33.6	-2.77E+03	2.93E+03	-2.68E+03	2.84E+03	-1.55E+03	1.60E+03
2.50	82.7	-3.97E+03	4.31E+03	-3.84E+03	4.16E+03	-1.57E+03	1.63E+03
3.75	186.	-6.09E+03	6.79E+03	-5.88E+03	6.55E+03	-1.62E+03	1.70E+03
5.00	288.	-8.44E+03	9.36E+03	-8.13E+03	9.07E+03	-1.68E+03	1.76E+03

Table P–212. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	19.2	-1.56E+03	1.64E+03	-1.55E+03	1.62E+03	-1.57E+03	1.60E+03
1.75	59.0	-2.68E+03	2.92E+03	-2.66E+03	2.89E+03	-1.55E+03	1.62E+03
2.50	121.	-3.76E+03	4.24E+03	-3.72E+03	4.19E+03	-1.54E+03	1.63E+03
3.75	271.	-5.46E+03	6.55E+03	-5.40E+03	6.47E+03	-1.51E+03	1.65E+03
5.00	483.	-7.03E+03	8.96E+03	-6.96E+03	8.85E+03	-1.49E+03	1.67E+03

Table P–213. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	2.56	-1.59E+03	1.63E+03	-1.57E+03	1.61E+03	-1.58E+03	1.61E+03
1.75	37.2	-2.77E+03	2.94E+03	-2.73E+03	2.90E+03	-1.58E+03	1.64E+03
2.50	84.8	-3.97E+03	4.31E+03	-3.92E+03	4.26E+03	-1.60E+03	1.67E+03
3.75	185.	-6.10E+03	6.79E+03	-6.02E+03	6.70E+03	-1.66E+03	1.74E+03
5.00	284.	-8.47E+03	9.36E+03	-8.35E+03	9.26E+03	-1.73E+03	1.79E+03

Table P–214. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	2.56	-1.59E+03	1.63E+03	-1.57E+03	1.61E+03	-1.58E+03	1.61E+03
1.75	37.2	-2.77E+03	2.94E+03	-2.73E+03	2.90E+03	-1.58E+03	1.64E+03
2.50	84.8	-3.97E+03	4.31E+03	-3.92E+03	4.26E+03	-1.60E+03	1.67E+03
3.75	185.	-6.10E+03	6.79E+03	-6.02E+03	6.70E+03	-1.66E+03	1.74E+03
5.00	284.	-8.47E+03	9.36E+03	-8.35E+03	9.26E+03	-1.73E+03	1.79E+03

Table P–215. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NFA							
	$\langle \boldsymbol{F_x^{\text{hst}}} \rangle$	**Unfiltered** $\boldsymbol{F_x^{\text{hst}}}$		**Filtered** $\boldsymbol{F_x^{\text{hst}}}$		**Filtered** $\left(\boldsymbol{F_x^{\text{hst}}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–216. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NSHIPMO							
	$\langle \boldsymbol{F_x^{\text{hst}}} \rangle$	**Unfiltered** $\boldsymbol{F_x^{\text{hst}}}$		**Filtered** $\boldsymbol{F_x^{\text{hst}}}$		**Filtered** $\left(\boldsymbol{F_x^{\text{hst}}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	16.4	-1.58E+03	1.64E+03	-1.56E+03	1.63E+03	-1.58E+03	1.61E+03
1.75	47.9	-2.76E+03	2.94E+03	-2.73E+03	2.91E+03	-1.59E+03	1.64E+03
2.50	90.9	-3.96E+03	4.31E+03	-3.92E+03	4.26E+03	-1.60E+03	1.67E+03
3.75	181.	-6.08E+03	6.76E+03	-6.04E+03	6.71E+03	-1.66E+03	1.74E+03
5.00	287.	-8.42E+03	9.47E+03	-8.38E+03	9.43E+03	-1.73E+03	1.83E+03

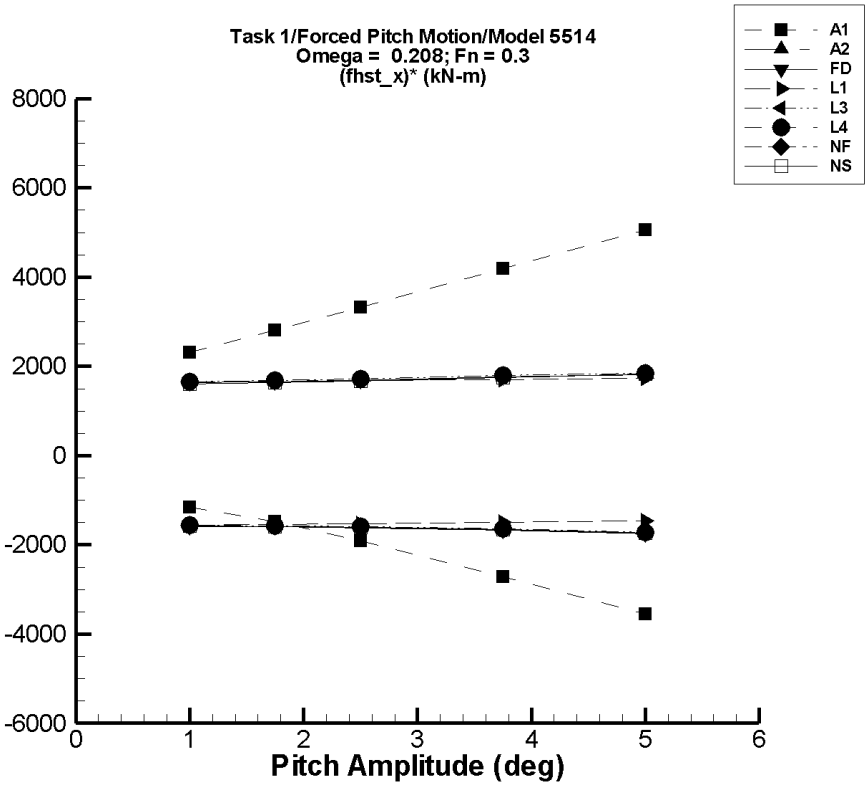

Figure P–28. Minimum and maximum of filtered $\left(F_x^{\text{hst}} - \langle F_x^{\text{hst}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–217. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	699.	-463.	3.01E+03	-461.	3.00E+03	-1.16E+03	2.30E+03
1.75	2.12E+03	-463.	7.05E+03	-455.	7.04E+03	-1.47E+03	2.81E+03
2.50	4.34E+03	-463.	1.27E+04	-446.	1.27E+04	-1.91E+03	3.33E+03
3.75	9.76E+03	-463.	2.55E+04	-421.	2.55E+04	-2.72E+03	4.19E+03
5.00	1.74E+04	-463.	4.28E+04	-388.	4.27E+04	-3.56E+03	5.06E+03

Table P–218. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	63.5	-1.53E+03	1.70E+03	-1.53E+03	1.70E+03	-1.60E+03	1.64E+03
1.75	93.0	-2.69E+03	2.99E+03	-2.69E+03	2.99E+03	-1.59E+03	1.66E+03
2.50	144.	-3.91E+03	4.35E+03	-3.91E+03	4.35E+03	-1.62E+03	1.68E+03
3.75	214.	-6.08E+03	6.79E+03	-6.08E+03	6.78E+03	-1.68E+03	1.75E+03
5.00	307.	-8.48E+03	9.38E+03	-8.47E+03	9.36E+03	-1.76E+03	1.81E+03

Table P–219. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-2.14	-1.60E+03	1.63E+03	-1.59E+03	1.63E+03	-1.59E+03	1.63E+03
1.75	33.6	-2.77E+03	2.94E+03	-2.76E+03	2.93E+03	-1.60E+03	1.66E+03
2.50	82.5	-3.97E+03	4.31E+03	-3.96E+03	4.31E+03	-1.62E+03	1.69E+03
3.75	185.	-6.09E+03	6.80E+03	-6.08E+03	6.79E+03	-1.67E+03	1.76E+03
5.00	287.	-8.44E+03	9.38E+03	-8.43E+03	9.36E+03	-1.74E+03	1.82E+03

Table P–220. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	19.4	-1.56E+03	1.64E+03	-1.56E+03	1.64E+03	-1.58E+03	1.62E+03
1.75	59.3	-2.69E+03	2.92E+03	-2.68E+03	2.92E+03	-1.57E+03	1.64E+03
2.50	121.	-3.76E+03	4.25E+03	-3.76E+03	4.24E+03	-1.55E+03	1.65E+03
3.75	272.	-5.46E+03	6.55E+03	-5.46E+03	6.55E+03	-1.53E+03	1.67E+03
5.00	483.	-7.03E+03	8.97E+03	-7.03E+03	8.96E+03	-1.50E+03	1.70E+03

Table P–221. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	2.69	-1.59E+03	1.63E+03	-1.59E+03	1.63E+03	-1.59E+03	1.63E+03
1.75	37.5	-2.77E+03	2.94E+03	-2.76E+03	2.94E+03	-1.60E+03	1.66E+03
2.50	85.2	-3.97E+03	4.31E+03	-3.97E+03	4.31E+03	-1.62E+03	1.69E+03
3.75	185.	-6.10E+03	6.79E+03	-6.10E+03	6.79E+03	-1.68E+03	1.76E+03
5.00	285.	-8.47E+03	9.37E+03	-8.47E+03	9.36E+03	-1.75E+03	1.82E+03

Table P–222. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	2.69	-1.59E+03	1.63E+03	-1.59E+03	1.63E+03	-1.59E+03	1.63E+03
1.75	37.5	-2.77E+03	2.94E+03	-2.76E+03	2.94E+03	-1.60E+03	1.66E+03
2.50	85.2	-3.97E+03	4.31E+03	-3.97E+03	4.31E+03	-1.62E+03	1.69E+03
3.75	185.	-6.10E+03	6.79E+03	-6.10E+03	6.79E+03	-1.68E+03	1.76E+03
5.00	285.	-8.47E+03	9.37E+03	-8.47E+03	9.36E+03	-1.75E+03	1.82E+03

Table P–223. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NFA							
	$\langle \boldsymbol{F_x^{\text{hst}}} \rangle$	Unfiltered $\boldsymbol{F_x^{\text{hst}}}$		Filtered $\boldsymbol{F_x^{\text{hst}}}$		Filtered $\left(\boldsymbol{F_x^{\text{hst}}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–224. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NSHIPMO							
	$\langle \boldsymbol{F_x^{\text{hst}}} \rangle$	Unfiltered $\boldsymbol{F_x^{\text{hst}}}$		Filtered $\boldsymbol{F_x^{\text{hst}}}$		Filtered $\left(\boldsymbol{F_x^{\text{hst}}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	16.4	-1.58E+03	1.64E+03	-1.56E+03	1.63E+03	-1.58E+03	1.61E+03
1.75	47.9	-2.76E+03	2.94E+03	-2.73E+03	2.91E+03	-1.59E+03	1.64E+03
2.50	90.9	-3.96E+03	4.31E+03	-3.92E+03	4.26E+03	-1.60E+03	1.67E+03
3.75	181.	-6.08E+03	6.76E+03	-6.04E+03	6.71E+03	-1.66E+03	1.74E+03
5.00	287.	-8.42E+03	9.47E+03	-8.38E+03	9.43E+03	-1.73E+03	1.83E+03

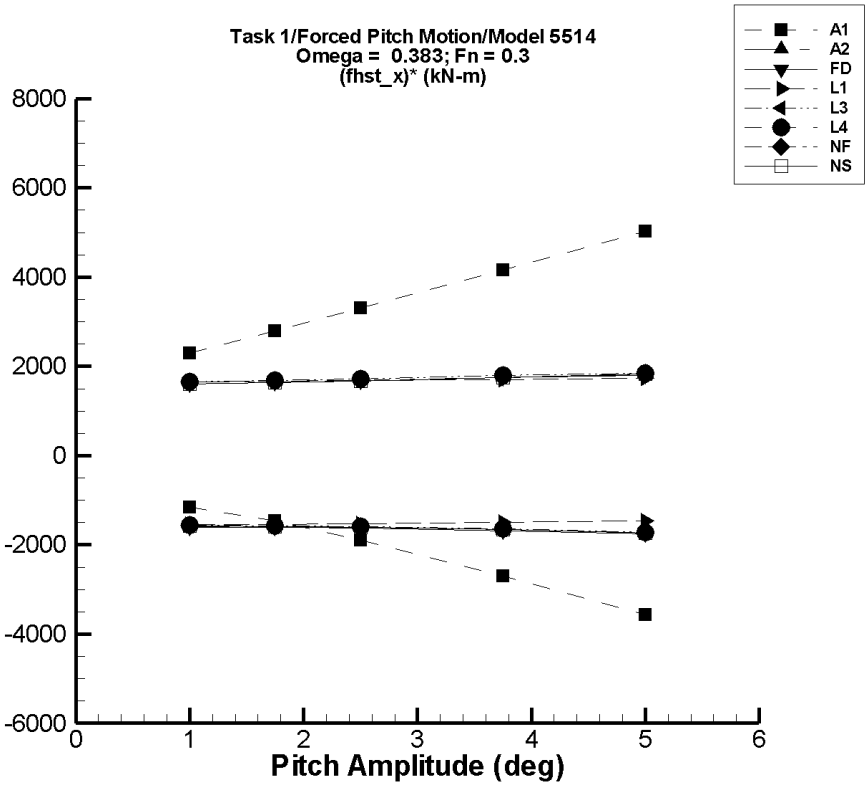

Figure P–29. Minimum and maximum of filtered $\left(F_x^{\text{hst}} - \langle F_x^{\text{hst}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–225. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	699.	-463.	3.01E+03	-456.	2.99E+03	-1.16E+03	2.29E+03
1.75	2.12E+03	-463.	7.05E+03	-435.	7.01E+03	-1.46E+03	2.79E+03
2.50	4.34E+03	-463.	1.27E+04	-402.	1.26E+04	-1.90E+03	3.31E+03
3.75	9.76E+03	-463.	2.55E+04	-360.	2.54E+04	-2.70E+03	4.16E+03
5.00	1.74E+04	-463.	4.28E+04	-457.	4.25E+04	-3.57E+03	5.02E+03

Table P–226. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	48.9	-2.51E+03	1.70E+03	-1.54E+03	1.70E+03	-1.59E+03	1.65E+03
1.75	101.	-2.69E+03	2.99E+03	-2.69E+03	2.98E+03	-1.60E+03	1.65E+03
2.50	144.	-3.91E+03	4.35E+03	-3.92E+03	4.34E+03	-1.63E+03	1.68E+03
3.75	220.	-6.08E+03	6.79E+03	-6.09E+03	6.76E+03	-1.68E+03	1.74E+03
5.00	302.	-8.48E+03	9.38E+03	-8.49E+03	9.33E+03	-1.76E+03	1.81E+03

Table P–227. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-2.13	-1.60E+03	1.63E+03	-1.59E+03	1.62E+03	-1.59E+03	1.63E+03
1.75	33.7	-2.77E+03	2.94E+03	-2.76E+03	2.92E+03	-1.60E+03	1.65E+03
2.50	82.8	-3.97E+03	4.31E+03	-3.95E+03	4.30E+03	-1.61E+03	1.69E+03
3.75	186.	-6.09E+03	6.80E+03	-6.06E+03	6.77E+03	-1.67E+03	1.76E+03
5.00	290.	-8.44E+03	9.37E+03	-8.41E+03	9.34E+03	-1.74E+03	1.81E+03

Table P–228. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	19.3	-1.56E+03	1.64E+03	-1.56E+03	1.64E+03	-1.58E+03	1.62E+03
1.75	59.3	-2.68E+03	2.92E+03	-2.68E+03	2.92E+03	-1.57E+03	1.63E+03
2.50	121.	-3.76E+03	4.25E+03	-3.76E+03	4.24E+03	-1.55E+03	1.65E+03
3.75	272.	-5.46E+03	6.55E+03	-5.45E+03	6.54E+03	-1.53E+03	1.67E+03
5.00	483.	-7.03E+03	8.97E+03	-7.03E+03	8.95E+03	-1.50E+03	1.69E+03

Table P–229. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	2.67	-1.59E+03	1.63E+03	-1.59E+03	1.63E+03	-1.59E+03	1.63E+03
1.75	37.4	-2.77E+03	2.94E+03	-2.76E+03	2.93E+03	-1.60E+03	1.65E+03
2.50	85.0	-3.97E+03	4.31E+03	-3.96E+03	4.31E+03	-1.62E+03	1.69E+03
3.75	185.	-6.10E+03	6.79E+03	-6.09E+03	6.78E+03	-1.67E+03	1.76E+03
5.00	283.	-8.47E+03	9.37E+03	-8.46E+03	9.35E+03	-1.75E+03	1.81E+03

Table P–230. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	2.67	-1.59E+03	1.63E+03	-1.59E+03	1.63E+03	-1.59E+03	1.63E+03
1.75	37.4	-2.77E+03	2.94E+03	-2.76E+03	2.93E+03	-1.60E+03	1.65E+03
2.50	85.0	-3.97E+03	4.31E+03	-3.96E+03	4.31E+03	-1.62E+03	1.69E+03
3.75	185.	-6.10E+03	6.79E+03	-6.09E+03	6.78E+03	-1.67E+03	1.76E+03
5.00	283.	-8.47E+03	9.37E+03	-8.46E+03	9.35E+03	-1.75E+03	1.81E+03

Table P–231. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NFA							
	$\langle \boldsymbol{F_x^{\text{hst}}} \rangle$	**Unfiltered** $\boldsymbol{F_x^{\text{hst}}}$		**Filtered** $\boldsymbol{F_x^{\text{hst}}}$		**Filtered** $\left(\boldsymbol{F_x^{\text{hst}}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–232. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NSHIPMO							
	$\langle \boldsymbol{F_x^{\text{hst}}} \rangle$	**Unfiltered** $\boldsymbol{F_x^{\text{hst}}}$		**Filtered** $\boldsymbol{F_x^{\text{hst}}}$		**Filtered** $\left(\boldsymbol{F_x^{\text{hst}}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	16.4	-1.58E+03	1.64E+03	-1.56E+03	1.63E+03	-1.58E+03	1.61E+03
1.75	47.9	-2.76E+03	2.94E+03	-2.73E+03	2.91E+03	-1.59E+03	1.64E+03
2.50	90.9	-3.96E+03	4.31E+03	-3.92E+03	4.26E+03	-1.60E+03	1.67E+03
3.75	181.	-6.08E+03	6.76E+03	-6.04E+03	6.71E+03	-1.66E+03	1.74E+03
5.00	287.	-8.42E+03	9.47E+03	-8.38E+03	9.43E+03	-1.73E+03	1.83E+03

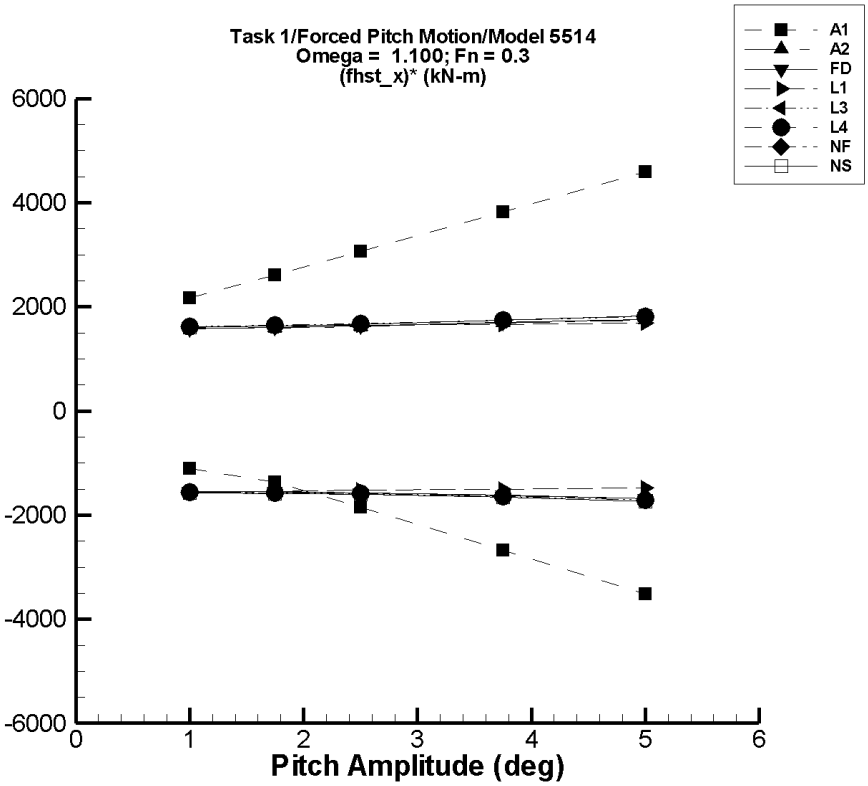

Figure P–30. Minimum and maximum of filtered $\left(F_x^{\text{hst}} - \langle F_x^{\text{hst}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–233. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	699.	-462.	3.00E+03	-410.	2.87E+03	-1.11E+03	2.17E+03
1.75	2.12E+03	-463.	7.04E+03	-267.	6.70E+03	-1.37E+03	2.61E+03
2.50	4.34E+03	-463.	1.27E+04	-280.	1.20E+04	-1.85E+03	3.07E+03
3.75	9.76E+03	-462.	2.55E+04	-280.	2.41E+04	-2.68E+03	3.83E+03
5.00	1.74E+04	-462.	4.27E+04	-184.	4.04E+04	-3.52E+03	4.60E+03

Table P–234. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	63.3	-1.53E+03	1.70E+03	-1.50E+03	1.65E+03	-1.56E+03	1.59E+03
1.75	101.	-2.69E+03	2.99E+03	-2.62E+03	2.90E+03	-1.55E+03	1.60E+03
2.50	143.	-3.91E+03	4.35E+03	-3.80E+03	4.21E+03	-1.58E+03	1.63E+03
3.75	220.	-6.08E+03	6.78E+03	-5.90E+03	6.55E+03	-1.63E+03	1.69E+03
5.00	283.	-8.47E+03	9.38E+03	-8.16E+03	9.04E+03	-1.69E+03	1.75E+03

Table P–235. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-2.12	-1.60E+03	1.63E+03	-1.55E+03	1.58E+03	-1.55E+03	1.58E+03
1.75	33.6	-2.77E+03	2.93E+03	-2.68E+03	2.84E+03	-1.55E+03	1.60E+03
2.50	82.7	-3.97E+03	4.31E+03	-3.84E+03	4.16E+03	-1.57E+03	1.63E+03
3.75	186.	-6.09E+03	6.79E+03	-5.88E+03	6.55E+03	-1.62E+03	1.70E+03
5.00	288.	-8.44E+03	9.36E+03	-8.13E+03	9.07E+03	-1.68E+03	1.76E+03

Table P–236. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	19.2	-1.56E+03	1.64E+03	-1.55E+03	1.62E+03	-1.57E+03	1.60E+03
1.75	59.0	-2.68E+03	2.92E+03	-2.66E+03	2.89E+03	-1.55E+03	1.62E+03
2.50	121.	-3.76E+03	4.24E+03	-3.72E+03	4.19E+03	-1.54E+03	1.63E+03
3.75	271.	-5.46E+03	6.55E+03	-5.40E+03	6.47E+03	-1.51E+03	1.65E+03
5.00	483.	-7.03E+03	8.96E+03	-6.96E+03	8.85E+03	-1.49E+03	1.67E+03

Table P–237. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	2.56	-1.59E+03	1.63E+03	-1.57E+03	1.61E+03	-1.58E+03	1.61E+03
1.75	37.2	-2.77E+03	2.94E+03	-2.73E+03	2.90E+03	-1.58E+03	1.64E+03
2.50	84.8	-3.97E+03	4.31E+03	-3.92E+03	4.26E+03	-1.60E+03	1.67E+03
3.75	185.	-6.10E+03	6.79E+03	-6.02E+03	6.70E+03	-1.66E+03	1.74E+03
5.00	284.	-8.47E+03	9.36E+03	-8.35E+03	9.26E+03	-1.73E+03	1.79E+03

Table P–238. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	2.56	-1.59E+03	1.63E+03	-1.57E+03	1.61E+03	-1.58E+03	1.61E+03
1.75	37.2	-2.77E+03	2.94E+03	-2.73E+03	2.90E+03	-1.58E+03	1.64E+03
2.50	84.8	-3.97E+03	4.31E+03	-3.92E+03	4.26E+03	-1.60E+03	1.67E+03
3.75	185.	-6.10E+03	6.79E+03	-6.02E+03	6.70E+03	-1.66E+03	1.74E+03
5.00	284.	-8.47E+03	9.36E+03	-8.35E+03	9.26E+03	-1.73E+03	1.79E+03

Table P–239. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NFA							
	$\langle \boldsymbol{F_x^{\text{hst}}} \rangle$	**Unfiltered** $\boldsymbol{F_x^{\text{hst}}}$		**Filtered** $\boldsymbol{F_x^{\text{hst}}}$		**Filtered** $\left(\boldsymbol{F_x^{\text{hst}}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–240. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NSHIPMO							
	$\langle \boldsymbol{F_x^{\text{hst}}} \rangle$	**Unfiltered** $\boldsymbol{F_x^{\text{hst}}}$		**Filtered** $\boldsymbol{F_x^{\text{hst}}}$		**Filtered** $\left(\boldsymbol{F_x^{\text{hst}}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	16.4	-1.58E+03	1.64E+03	-1.56E+03	1.63E+03	-1.58E+03	1.61E+03
1.75	47.9	-2.76E+03	2.94E+03	-2.73E+03	2.91E+03	-1.59E+03	1.64E+03
2.50	90.9	-3.96E+03	4.31E+03	-3.92E+03	4.26E+03	-1.60E+03	1.67E+03
3.75	181.	-6.08E+03	6.76E+03	-6.04E+03	6.71E+03	-1.66E+03	1.74E+03
5.00	287.	-8.42E+03	9.47E+03	-8.38E+03	9.43E+03	-1.73E+03	1.83E+03

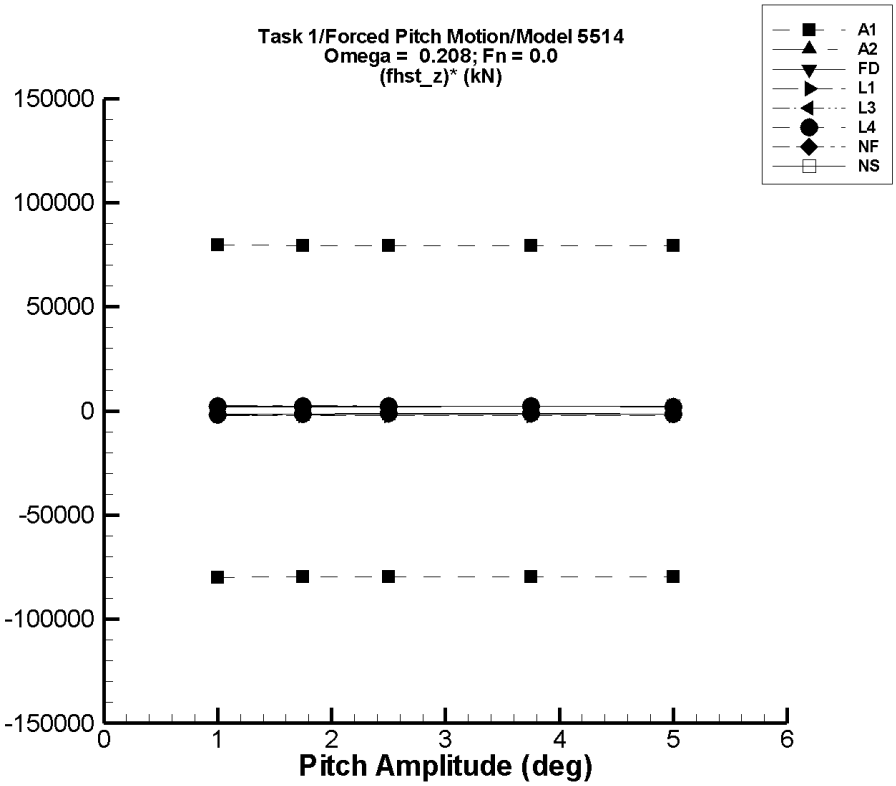

Figure P–31. Minimum and maximum of filtered $\left(F_z^{\text{hst}} - \langle F_z^{\text{hst}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–241. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.20E+04	1.20E+04	1.72E+05	1.20E+04	1.72E+05	-7.99E+04	7.98E+04
1.75	9.19E+04	-4.73E+04	2.31E+05	-4.74E+04	2.31E+05	-7.96E+04	7.95E+04
2.50	9.19E+04	-1.07E+05	2.91E+05	-1.07E+05	2.91E+05	-7.96E+04	7.95E+04
3.75	9.19E+04	-2.06E+05	3.90E+05	-2.06E+05	3.90E+05	-7.95E+04	7.94E+04
5.00	9.18E+04	-3.06E+05	4.89E+05	-3.06E+05	4.88E+05	-7.95E+04	7.93E+04

Table P–242. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.21E+04	8.98E+04	9.47E+04	8.98E+04	9.47E+04	-2.33E+03	2.63E+03
1.75	9.26E+04	8.95E+04	9.69E+04	8.95E+04	9.69E+04	-1.73E+03	2.49E+03
2.50	9.34E+04	8.95E+04	9.92E+04	8.95E+04	9.92E+04	-1.54E+03	2.34E+03
3.75	9.53E+04	8.95E+04	1.04E+05	8.96E+04	1.04E+05	-1.53E+03	2.27E+03
5.00	9.75E+04	8.95E+04	1.08E+05	8.96E+04	1.08E+05	-1.59E+03	2.00E+03

Table P–243. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle F_z^{\text{hst}} \rangle$	**Unfiltered** F_z^{hst}		**Filtered** F_z^{hst}		**Filtered** $\left(F_z^{\text{hst}}\right)^*$	
θ_a	**Mean**	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**
(°)	**(kN)**	**(kN)**	**(kN)**	**(kN)**	**(kN)**	**(kN/°)**	**(kN/°)**
1.00	9.22E+04	9.02E+04	9.46E+04	9.02E+04	9.46E+04	-1.97E+03	2.36E+03
1.75	9.27E+04	8.99E+04	9.68E+04	8.99E+04	9.68E+04	-1.56E+03	2.36E+03
2.50	9.34E+04	8.99E+04	9.93E+04	8.99E+04	9.93E+04	-1.39E+03	2.35E+03
3.75	9.52E+04	8.99E+04	1.04E+05	8.99E+04	1.04E+05	-1.39E+03	2.36E+03
5.00	9.73E+04	8.99E+04	1.07E+05	9.00E+04	1.07E+05	-1.46E+03	2.02E+03

Table P–244. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle F_z^{\text{hst}} \rangle$	**Unfiltered** F_z^{hst}		**Filtered** F_z^{hst}		**Filtered** $\left(F_z^{\text{hst}}\right)^*$	
θ_a	**Mean**	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**
(°)	**(kN)**	**(kN)**	**(kN)**	**(kN)**	**(kN)**	**(kN/°)**	**(kN/°)**
1.00	9.18E+04	8.96E+04	9.40E+04	8.96E+04	9.40E+04	-2.22E+03	2.21E+03
1.75	9.18E+04	8.79E+04	9.56E+04	8.79E+04	9.56E+04	-2.23E+03	2.20E+03
2.50	9.18E+04	8.62E+04	9.72E+04	8.62E+04	9.72E+04	-2.23E+03	2.20E+03
3.75	9.17E+04	8.33E+04	9.99E+04	8.33E+04	9.99E+04	-2.24E+03	2.19E+03
5.00	9.16E+04	8.04E+04	1.02E+05	8.04E+04	1.02E+05	-2.24E+03	2.17E+03

Table P–245. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.20E+04	9.00E+04	9.43E+04	9.00E+04	9.43E+04	-1.92E+03	2.31E+03
1.75	9.24E+04	8.98E+04	9.65E+04	8.98E+04	9.65E+04	-1.51E+03	2.31E+03
2.50	9.32E+04	8.98E+04	9.89E+04	8.98E+04	9.89E+04	-1.35E+03	2.31E+03
3.75	9.49E+04	8.98E+04	1.04E+05	8.98E+04	1.04E+05	-1.37E+03	2.32E+03
5.00	9.71E+04	8.98E+04	1.07E+05	8.98E+04	1.07E+05	-1.46E+03	2.02E+03

Table P–246. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.20E+04	9.00E+04	9.43E+04	9.00E+04	9.43E+04	-1.92E+03	2.31E+03
1.75	9.24E+04	8.98E+04	9.65E+04	8.98E+04	9.65E+04	-1.51E+03	2.31E+03
2.50	9.32E+04	8.98E+04	9.89E+04	8.98E+04	9.89E+04	-1.35E+03	2.31E+03
3.75	9.49E+04	8.98E+04	1.04E+05	8.98E+04	1.04E+05	-1.37E+03	2.32E+03
5.00	9.71E+04	8.98E+04	1.07E+05	8.98E+04	1.07E+05	-1.46E+03	2.02E+03

Table P–247. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NFA							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–248. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NSHIPMO							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.22E+04	9.05E+04	9.42E+04	9.05E+04	9.42E+04	-1.66E+03	2.04E+03
1.75	9.26E+04	9.02E+04	9.63E+04	9.02E+04	9.62E+04	-1.38E+03	2.09E+03
2.50	9.33E+04	9.02E+04	9.86E+04	9.02E+04	9.86E+04	-1.22E+03	2.10E+03
3.75	9.50E+04	9.02E+04	1.03E+05	9.03E+04	1.03E+05	-1.25E+03	2.15E+03
5.00	9.72E+04	9.02E+04	1.08E+05	9.03E+04	1.08E+05	-1.38E+03	2.20E+03

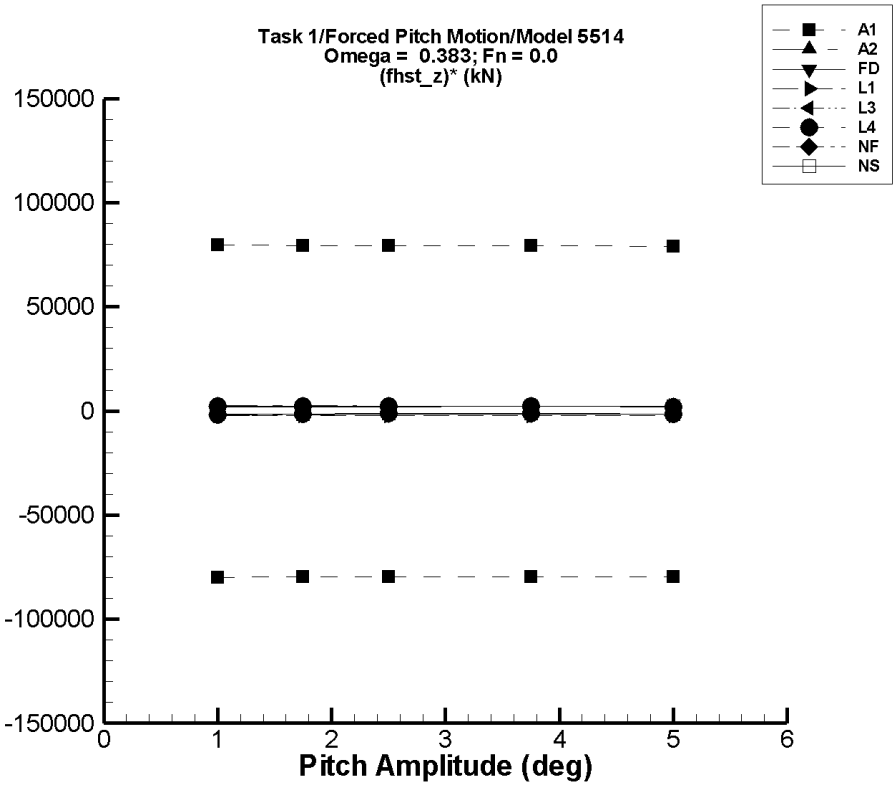

Figure P–32. Minimum and maximum of filtered $\left(F_z^{\text{hst}} - \langle F_z^{\text{hst}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–249. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.20E+04	1.20E+04	1.72E+05	1.18E+04	1.72E+05	-8.02E+04	7.96E+04
1.75	9.19E+04	-4.73E+04	2.31E+05	-4.77E+04	2.31E+05	-7.98E+04	7.93E+04
2.50	9.19E+04	-1.07E+05	2.91E+05	-1.08E+05	2.90E+05	-7.98E+04	7.93E+04
3.75	9.19E+04	-2.06E+05	3.90E+05	-2.07E+05	3.89E+05	-7.97E+04	7.92E+04
5.00	9.18E+04	-3.06E+05	4.89E+05	-3.07E+05	4.87E+05	-7.97E+04	7.91E+04

Table P–250. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.21E+04	8.97E+04	9.47E+04	8.98E+04	9.47E+04	-2.33E+03	2.63E+03
1.75	9.26E+04	8.95E+04	9.69E+04	8.95E+04	9.69E+04	-1.73E+03	2.48E+03
2.50	9.34E+04	8.95E+04	9.92E+04	8.96E+04	9.92E+04	-1.53E+03	2.33E+03
3.75	9.53E+04	8.95E+04	1.04E+05	8.96E+04	1.04E+05	-1.51E+03	2.26E+03
5.00	9.76E+04	8.95E+04	1.08E+05	8.98E+04	1.08E+05	-1.56E+03	1.99E+03

Table P–251. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.22E+04	9.02E+04	9.46E+04	9.02E+04	9.45E+04	-1.97E+03	2.35E+03
1.75	9.27E+04	8.99E+04	9.68E+04	8.99E+04	9.68E+04	-1.56E+03	2.35E+03
2.50	9.34E+04	8.99E+04	9.93E+04	8.99E+04	9.93E+04	-1.38E+03	2.34E+03
3.75	9.51E+04	8.99E+04	1.04E+05	9.00E+04	1.04E+05	-1.38E+03	2.36E+03
5.00	9.73E+04	8.99E+04	1.07E+05	9.00E+04	1.07E+05	-1.45E+03	2.02E+03

Table P–252. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.18E+04	8.96E+04	9.40E+04	8.96E+04	9.40E+04	-2.22E+03	2.21E+03
1.75	9.18E+04	8.79E+04	9.56E+04	8.79E+04	9.56E+04	-2.23E+03	2.20E+03
2.50	9.18E+04	8.62E+04	9.72E+04	8.62E+04	9.72E+04	-2.23E+03	2.20E+03
3.75	9.17E+04	8.33E+04	9.99E+04	8.33E+04	9.99E+04	-2.24E+03	2.18E+03
5.00	9.16E+04	8.04E+04	1.02E+05	8.04E+04	1.02E+05	-2.24E+03	2.17E+03

Table P–253. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.20E+04	9.00E+04	9.43E+04	9.00E+04	9.43E+04	-1.92E+03	2.31E+03
1.75	9.24E+04	8.98E+04	9.65E+04	8.98E+04	9.65E+04	-1.51E+03	2.31E+03
2.50	9.32E+04	8.98E+04	9.89E+04	8.98E+04	9.89E+04	-1.35E+03	2.30E+03
3.75	9.49E+04	8.98E+04	1.04E+05	8.98E+04	1.04E+05	-1.37E+03	2.32E+03
5.00	9.71E+04	8.98E+04	1.07E+05	8.98E+04	1.07E+05	-1.45E+03	2.02E+03

Table P–254. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.20E+04	9.00E+04	9.43E+04	9.00E+04	9.43E+04	-1.92E+03	2.31E+03
1.75	9.24E+04	8.98E+04	9.65E+04	8.98E+04	9.65E+04	-1.51E+03	2.31E+03
2.50	9.32E+04	8.98E+04	9.89E+04	8.98E+04	9.89E+04	-1.35E+03	2.30E+03
3.75	9.49E+04	8.98E+04	1.04E+05	8.98E+04	1.04E+05	-1.37E+03	2.32E+03
5.00	9.71E+04	8.98E+04	1.07E+05	8.98E+04	1.07E+05	-1.45E+03	2.02E+03

Table P–255. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NFA							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–256. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NSHIPMO							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.22E+04	9.05E+04	9.42E+04	9.05E+04	9.42E+04	-1.66E+03	2.04E+03
1.75	9.26E+04	9.02E+04	9.63E+04	9.02E+04	9.62E+04	-1.38E+03	2.09E+03
2.50	9.33E+04	9.02E+04	9.86E+04	9.02E+04	9.86E+04	-1.22E+03	2.10E+03
3.75	9.50E+04	9.02E+04	1.03E+05	9.03E+04	1.03E+05	-1.25E+03	2.15E+03
5.00	9.72E+04	9.02E+04	1.08E+05	9.03E+04	1.08E+05	-1.38E+03	2.20E+03

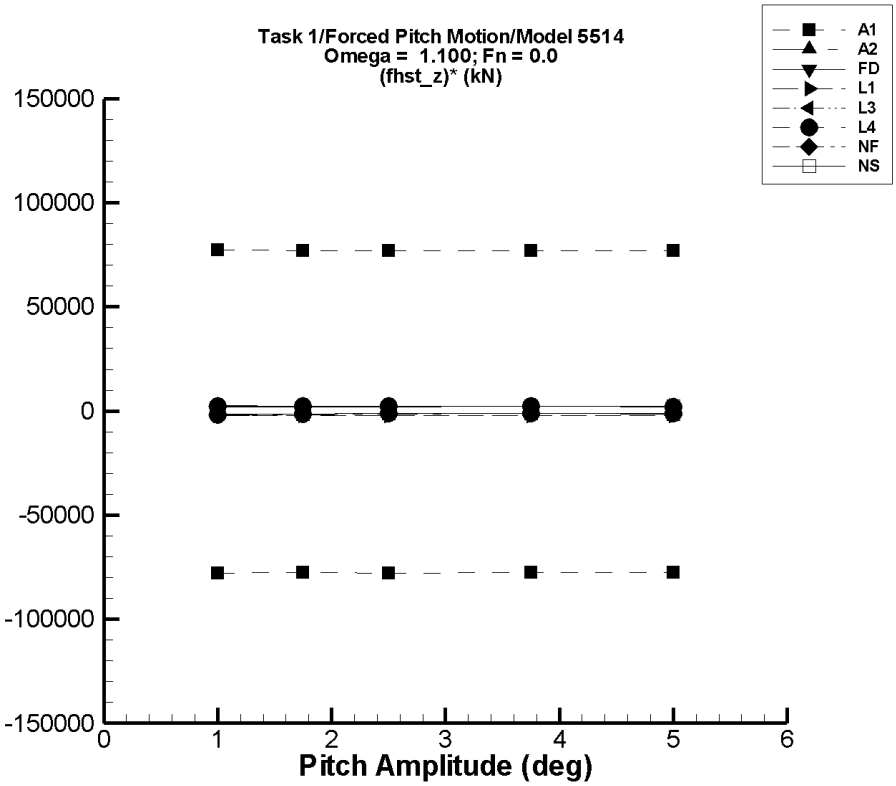

Figure P–33. Minimum and maximum of filtered $\left(F_z^{\text{hst}} - \langle F_z^{\text{hst}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–257. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.20E+04	1.20E+04	1.72E+05	1.40E+04	1.69E+05	-7.80E+04	7.74E+04
1.75	9.19E+04	-4.73E+04	2.31E+05	-4.40E+04	2.27E+05	-7.77E+04	7.71E+04
2.50	9.19E+04	-1.07E+05	2.91E+05	-1.02E+05	2.85E+05	-7.77E+04	7.71E+04
3.75	9.19E+04	-2.06E+05	3.90E+05	-1.99E+05	3.81E+05	-7.76E+04	7.70E+04
5.00	9.18E+04	-3.06E+05	4.89E+05	-2.96E+05	4.77E+05	-7.76E+04	7.70E+04

Table P–258. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.21E+04	8.98E+04	9.47E+04	8.98E+04	9.46E+04	-2.29E+03	2.55E+03
1.75	9.26E+04	8.95E+04	9.69E+04	8.95E+04	9.68E+04	-1.72E+03	2.40E+03
2.50	9.34E+04	8.95E+04	9.92E+04	8.99E+04	9.90E+04	-1.41E+03	2.25E+03
3.75	9.53E+04	8.95E+04	1.04E+05	9.04E+04	1.03E+05	-1.30E+03	2.15E+03
5.00	9.75E+04	8.96E+04	1.08E+05	9.10E+04	1.07E+05	-1.31E+03	1.96E+03

Table P–259. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.22E+04	9.02E+04	9.46E+04	9.03E+04	9.45E+04	-1.94E+03	2.27E+03
1.75	9.27E+04	8.99E+04	9.68E+04	8.99E+04	9.66E+04	-1.56E+03	2.26E+03
2.50	9.34E+04	8.99E+04	9.93E+04	9.00E+04	9.90E+04	-1.34E+03	2.25E+03
3.75	9.51E+04	8.99E+04	1.04E+05	9.04E+04	1.04E+05	-1.26E+03	2.24E+03
5.00	9.73E+04	8.99E+04	1.07E+05	9.08E+04	1.07E+05	-1.29E+03	2.01E+03

Table P–260. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.18E+04	8.96E+04	9.40E+04	8.96E+04	9.40E+04	-2.20E+03	2.19E+03
1.75	9.18E+04	8.79E+04	9.56E+04	8.79E+04	9.56E+04	-2.20E+03	2.18E+03
2.50	9.18E+04	8.62E+04	9.72E+04	8.62E+04	9.72E+04	-2.21E+03	2.17E+03
3.75	9.17E+04	8.33E+04	9.99E+04	8.34E+04	9.98E+04	-2.21E+03	2.16E+03
5.00	9.16E+04	8.04E+04	1.02E+05	8.05E+04	1.02E+05	-2.22E+03	2.15E+03

Table P–261. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.20E+04	9.00E+04	9.43E+04	9.01E+04	9.42E+04	-1.90E+03	2.28E+03
1.75	9.24E+04	8.98E+04	9.65E+04	8.98E+04	9.64E+04	-1.51E+03	2.28E+03
2.50	9.32E+04	8.98E+04	9.89E+04	8.98E+04	9.88E+04	-1.33E+03	2.27E+03
3.75	9.49E+04	8.98E+04	1.04E+05	9.00E+04	1.03E+05	-1.32E+03	2.28E+03
5.00	9.71E+04	8.98E+04	1.07E+05	9.02E+04	1.07E+05	-1.38E+03	2.02E+03

Table P–262. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.20E+04	9.00E+04	9.43E+04	9.01E+04	9.42E+04	-1.90E+03	2.28E+03
1.75	9.24E+04	8.98E+04	9.65E+04	8.98E+04	9.64E+04	-1.51E+03	2.28E+03
2.50	9.32E+04	8.98E+04	9.89E+04	8.98E+04	9.88E+04	-1.33E+03	2.27E+03
3.75	9.49E+04	8.98E+04	1.04E+05	9.00E+04	1.03E+05	-1.32E+03	2.28E+03
5.00	9.71E+04	8.98E+04	1.07E+05	9.02E+04	1.07E+05	-1.38E+03	2.02E+03

Table P–263. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NFA							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–264. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NSHIPMO							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.22E+04	9.05E+04	9.42E+04	9.05E+04	9.42E+04	-1.66E+03	2.04E+03
1.75	9.26E+04	9.02E+04	9.63E+04	9.02E+04	9.62E+04	-1.38E+03	2.09E+03
2.50	9.33E+04	9.02E+04	9.86E+04	9.02E+04	9.86E+04	-1.22E+03	2.10E+03
3.75	9.50E+04	9.02E+04	1.03E+05	9.03E+04	1.03E+05	-1.25E+03	2.15E+03
5.00	9.72E+04	9.02E+04	1.08E+05	9.03E+04	1.08E+05	-1.38E+03	2.20E+03

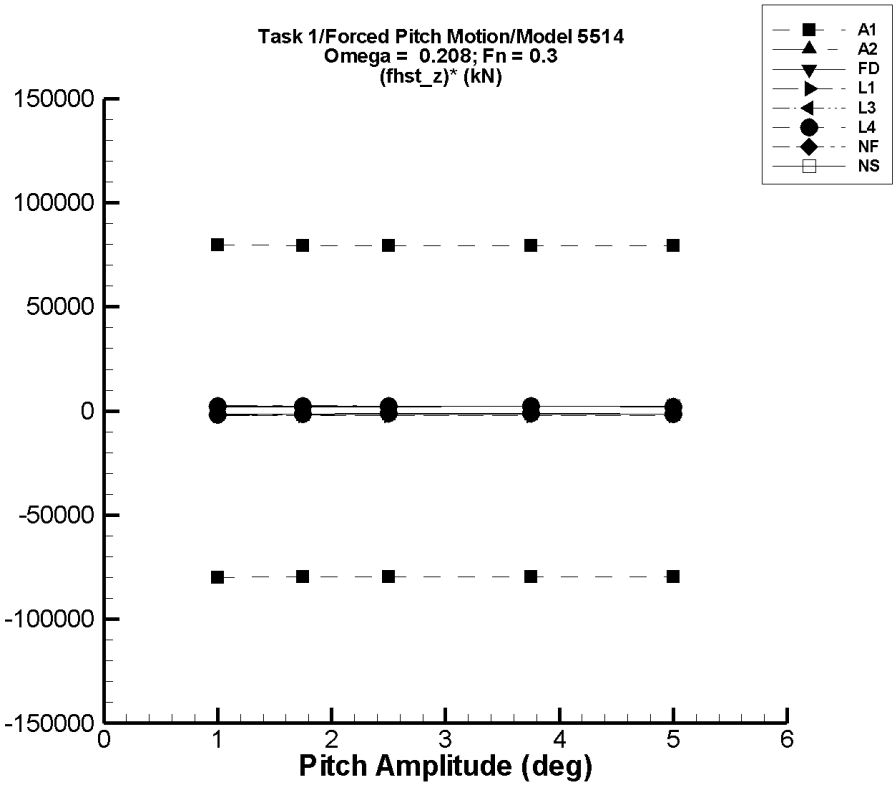

Figure P–34. Minimum and maximum of filtered $\left(F_z^{\text{hst}} - \langle F_z^{\text{hst}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–265. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.20E+04	1.20E+04	1.72E+05	1.20E+04	1.72E+05	-7.99E+04	7.98E+04
1.75	9.19E+04	-4.73E+04	2.31E+05	-4.74E+04	2.31E+05	-7.96E+04	7.95E+04
2.50	9.19E+04	-1.07E+05	2.91E+05	-1.07E+05	2.91E+05	-7.96E+04	7.95E+04
3.75	9.19E+04	-2.06E+05	3.90E+05	-2.06E+05	3.90E+05	-7.95E+04	7.94E+04
5.00	9.18E+04	-3.06E+05	4.89E+05	-3.06E+05	4.88E+05	-7.95E+04	7.93E+04

Table P–266. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.21E+04	8.98E+04	9.47E+04	8.98E+04	9.47E+04	-2.33E+03	2.63E+03
1.75	9.26E+04	8.95E+04	9.69E+04	8.95E+04	9.69E+04	-1.73E+03	2.49E+03
2.50	9.34E+04	8.95E+04	9.92E+04	8.95E+04	9.92E+04	-1.54E+03	2.34E+03
3.75	9.53E+04	8.95E+04	1.04E+05	8.96E+04	1.04E+05	-1.53E+03	2.27E+03
5.00	9.75E+04	8.95E+04	1.08E+05	8.96E+04	1.08E+05	-1.59E+03	2.00E+03

Table P–267. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.22E+04	9.02E+04	9.46E+04	9.02E+04	9.46E+04	-1.97E+03	2.36E+03
1.75	9.27E+04	8.99E+04	9.68E+04	8.99E+04	9.68E+04	-1.56E+03	2.36E+03
2.50	9.34E+04	8.99E+04	9.93E+04	8.99E+04	9.93E+04	-1.39E+03	2.35E+03
3.75	9.52E+04	8.99E+04	1.04E+05	8.99E+04	1.04E+05	-1.39E+03	2.36E+03
5.00	9.73E+04	8.99E+04	1.07E+05	9.00E+04	1.07E+05	-1.46E+03	2.02E+03

Table P–268. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.18E+04	8.96E+04	9.40E+04	8.96E+04	9.40E+04	-2.22E+03	2.21E+03
1.75	9.18E+04	8.79E+04	9.56E+04	8.79E+04	9.56E+04	-2.23E+03	2.20E+03
2.50	9.18E+04	8.62E+04	9.72E+04	8.62E+04	9.72E+04	-2.23E+03	2.20E+03
3.75	9.17E+04	8.33E+04	9.99E+04	8.33E+04	9.99E+04	-2.24E+03	2.19E+03
5.00	9.16E+04	8.04E+04	1.02E+05	8.04E+04	1.02E+05	-2.24E+03	2.17E+03

Table P–269. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.20E+04	9.00E+04	9.43E+04	9.00E+04	9.43E+04	-1.92E+03	2.31E+03
1.75	9.24E+04	8.98E+04	9.65E+04	8.98E+04	9.65E+04	-1.51E+03	2.31E+03
2.50	9.32E+04	8.98E+04	9.89E+04	8.98E+04	9.89E+04	-1.35E+03	2.31E+03
3.75	9.49E+04	8.98E+04	1.04E+05	8.98E+04	1.04E+05	-1.37E+03	2.32E+03
5.00	9.71E+04	8.98E+04	1.07E+05	8.98E+04	1.07E+05	-1.46E+03	2.02E+03

Table P–270. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.20E+04	9.00E+04	9.43E+04	9.00E+04	9.43E+04	-1.92E+03	2.31E+03
1.75	9.24E+04	8.98E+04	9.65E+04	8.98E+04	9.65E+04	-1.51E+03	2.31E+03
2.50	9.32E+04	8.98E+04	9.89E+04	8.98E+04	9.89E+04	-1.35E+03	2.31E+03
3.75	9.49E+04	8.98E+04	1.04E+05	8.98E+04	1.04E+05	-1.37E+03	2.32E+03
5.00	9.71E+04	8.98E+04	1.07E+05	8.98E+04	1.07E+05	-1.46E+03	2.02E+03

Table P–271. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NFA							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–272. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NSHIPMO							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.22E+04	9.05E+04	9.42E+04	9.05E+04	9.42E+04	-1.66E+03	2.04E+03
1.75	9.26E+04	9.02E+04	9.63E+04	9.02E+04	9.62E+04	-1.38E+03	2.09E+03
2.50	9.33E+04	9.02E+04	9.86E+04	9.02E+04	9.86E+04	-1.22E+03	2.10E+03
3.75	9.50E+04	9.02E+04	1.03E+05	9.03E+04	1.03E+05	-1.25E+03	2.15E+03
5.00	9.72E+04	9.02E+04	1.08E+05	9.03E+04	1.08E+05	-1.38E+03	2.20E+03

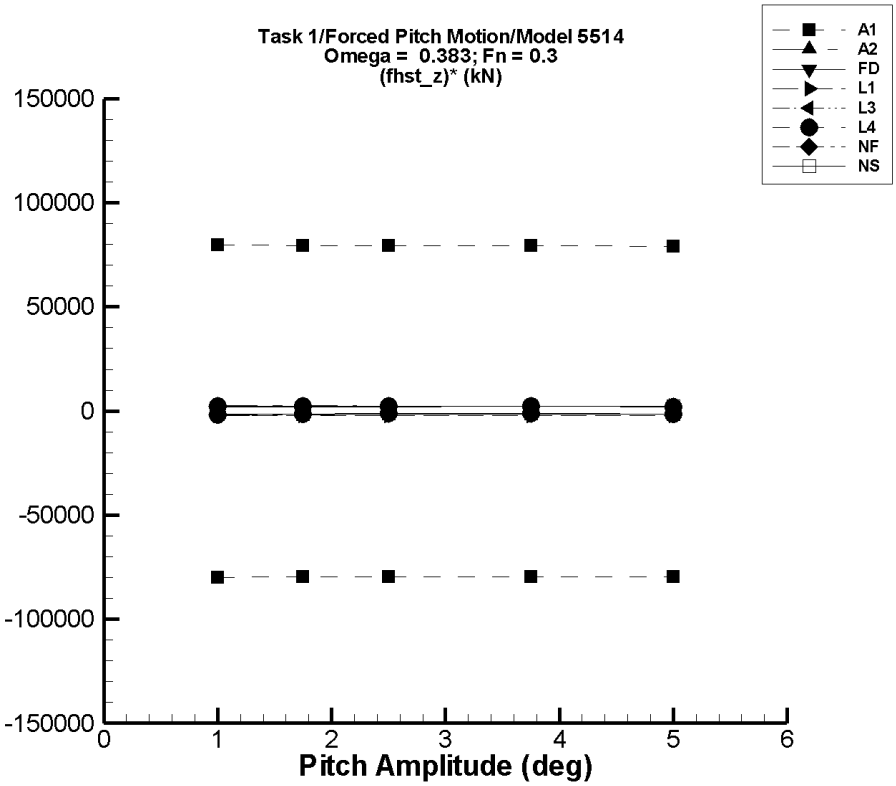

Figure P–35. Minimum and maximum of filtered $\left(F_z^{\text{hst}} - \langle F_z^{\text{hst}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–273. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.20E+04	1.20E+04	1.72E+05	1.18E+04	1.72E+05	-8.02E+04	7.96E+04
1.75	9.19E+04	-4.73E+04	2.31E+05	-4.77E+04	2.31E+05	-7.98E+04	7.93E+04
2.50	9.19E+04	-1.07E+05	2.91E+05	-1.08E+05	2.90E+05	-7.98E+04	7.93E+04
3.75	9.19E+04	-2.06E+05	3.90E+05	-2.07E+05	3.89E+05	-7.97E+04	7.92E+04
5.00	9.18E+04	-3.06E+05	4.89E+05	-3.07E+05	4.87E+05	-7.97E+04	7.91E+04

Table P–274. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.21E+04	8.97E+04	9.47E+04	8.98E+04	9.47E+04	-2.33E+03	2.63E+03
1.75	9.26E+04	8.95E+04	9.69E+04	8.95E+04	9.69E+04	-1.73E+03	2.48E+03
2.50	9.34E+04	8.95E+04	9.92E+04	8.96E+04	9.92E+04	-1.53E+03	2.33E+03
3.75	9.53E+04	8.95E+04	1.04E+05	8.96E+04	1.04E+05	-1.51E+03	2.26E+03
5.00	9.76E+04	8.95E+04	1.08E+05	8.98E+04	1.08E+05	-1.56E+03	1.99E+03

Table P–275. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.22E+04	9.02E+04	9.46E+04	9.02E+04	9.45E+04	-1.97E+03	2.35E+03
1.75	9.27E+04	8.99E+04	9.68E+04	8.99E+04	9.68E+04	-1.56E+03	2.35E+03
2.50	9.34E+04	8.99E+04	9.93E+04	8.99E+04	9.93E+04	-1.38E+03	2.34E+03
3.75	9.51E+04	8.99E+04	1.04E+05	9.00E+04	1.04E+05	-1.38E+03	2.36E+03
5.00	9.73E+04	8.99E+04	1.07E+05	9.00E+04	1.07E+05	-1.45E+03	2.02E+03

Table P–276. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.18E+04	8.96E+04	9.40E+04	8.96E+04	9.40E+04	-2.22E+03	2.21E+03
1.75	9.18E+04	8.79E+04	9.56E+04	8.79E+04	9.56E+04	-2.23E+03	2.20E+03
2.50	9.18E+04	8.62E+04	9.72E+04	8.62E+04	9.72E+04	-2.23E+03	2.20E+03
3.75	9.17E+04	8.33E+04	9.99E+04	8.33E+04	9.99E+04	-2.24E+03	2.18E+03
5.00	9.16E+04	8.04E+04	1.02E+05	8.04E+04	1.02E+05	-2.24E+03	2.17E+03

Table P–277. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.20E+04	9.00E+04	9.43E+04	9.00E+04	9.43E+04	-1.92E+03	2.31E+03
1.75	9.24E+04	8.98E+04	9.65E+04	8.98E+04	9.65E+04	-1.51E+03	2.31E+03
2.50	9.32E+04	8.98E+04	9.89E+04	8.98E+04	9.89E+04	-1.35E+03	2.30E+03
3.75	9.49E+04	8.98E+04	1.04E+05	8.98E+04	1.04E+05	-1.37E+03	2.32E+03
5.00	9.71E+04	8.98E+04	1.07E+05	8.98E+04	1.07E+05	-1.45E+03	2.02E+03

Table P–278. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.20E+04	9.00E+04	9.43E+04	9.00E+04	9.43E+04	-1.92E+03	2.31E+03
1.75	9.24E+04	8.98E+04	9.65E+04	8.98E+04	9.65E+04	-1.51E+03	2.31E+03
2.50	9.32E+04	8.98E+04	9.89E+04	8.98E+04	9.89E+04	-1.35E+03	2.30E+03
3.75	9.49E+04	8.98E+04	1.04E+05	8.98E+04	1.04E+05	-1.37E+03	2.32E+03
5.00	9.71E+04	8.98E+04	1.07E+05	8.98E+04	1.07E+05	-1.45E+03	2.02E+03

Table P–279. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NFA							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–280. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NSHIPMO							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.22E+04	9.05E+04	9.42E+04	9.05E+04	9.42E+04	-1.66E+03	2.04E+03
1.75	9.26E+04	9.02E+04	9.63E+04	9.02E+04	9.62E+04	-1.38E+03	2.09E+03
2.50	9.33E+04	9.02E+04	9.86E+04	9.02E+04	9.86E+04	-1.22E+03	2.10E+03
3.75	9.50E+04	9.02E+04	1.03E+05	9.03E+04	1.03E+05	-1.25E+03	2.15E+03
5.00	9.72E+04	9.02E+04	1.08E+05	9.03E+04	1.08E+05	-1.38E+03	2.20E+03

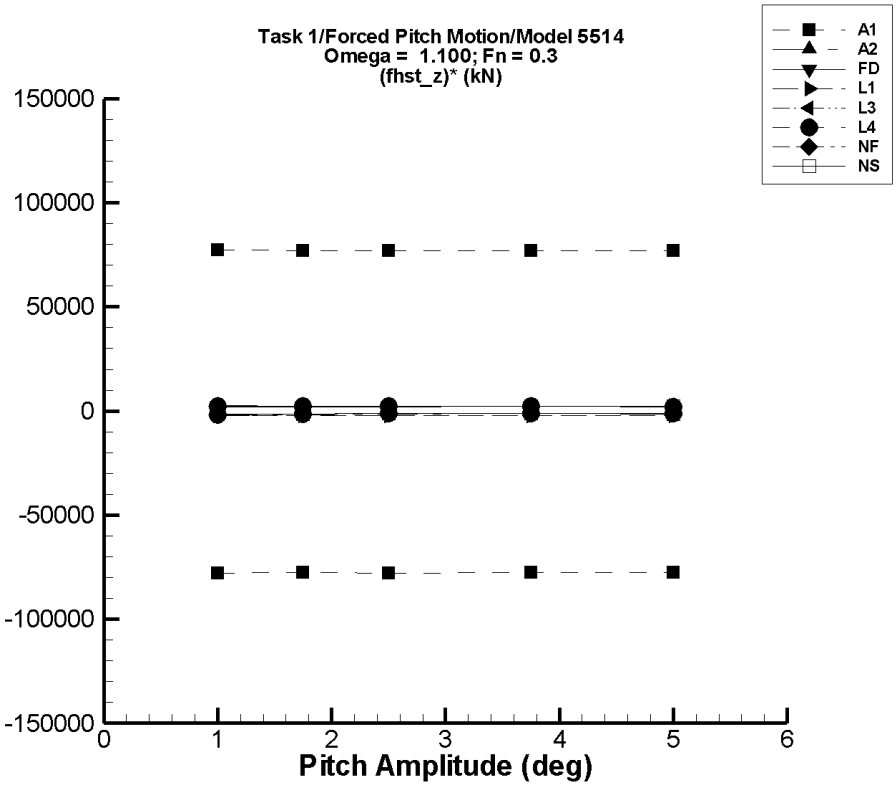

Figure P–36. Minimum and maximum of filtered $\left(F_z^{\text{hst}} - \langle F_z^{\text{hst}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–281. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.20E+04	1.20E+04	1.72E+05	1.40E+04	1.69E+05	-7.80E+04	7.74E+04
1.75	9.19E+04	-4.73E+04	2.31E+05	-4.40E+04	2.27E+05	-7.77E+04	7.71E+04
2.50	9.19E+04	-1.07E+05	2.91E+05	-1.02E+05	2.85E+05	-7.77E+04	7.71E+04
3.75	9.19E+04	-2.06E+05	3.90E+05	-1.99E+05	3.81E+05	-7.76E+04	7.70E+04
5.00	9.18E+04	-3.06E+05	4.89E+05	-2.96E+05	4.77E+05	-7.76E+04	7.70E+04

Table P–282. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.21E+04	8.98E+04	9.47E+04	8.98E+04	9.46E+04	-2.29E+03	2.55E+03
1.75	9.26E+04	8.95E+04	9.69E+04	8.95E+04	9.68E+04	-1.72E+03	2.40E+03
2.50	9.34E+04	8.95E+04	9.92E+04	8.99E+04	9.90E+04	-1.41E+03	2.25E+03
3.75	9.53E+04	8.95E+04	1.04E+05	9.04E+04	1.03E+05	-1.30E+03	2.15E+03
5.00	9.75E+04	8.96E+04	1.08E+05	9.10E+04	1.07E+05	-1.31E+03	1.96E+03

Table P–283. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.22E+04	9.02E+04	9.46E+04	9.03E+04	9.45E+04	-1.94E+03	2.27E+03
1.75	9.27E+04	8.99E+04	9.68E+04	8.99E+04	9.66E+04	-1.56E+03	2.26E+03
2.50	9.34E+04	8.99E+04	9.93E+04	9.00E+04	9.90E+04	-1.34E+03	2.25E+03
3.75	9.51E+04	8.99E+04	1.04E+05	9.04E+04	1.04E+05	-1.26E+03	2.24E+03
5.00	9.73E+04	8.99E+04	1.07E+05	9.08E+04	1.07E+05	-1.29E+03	2.01E+03

Table P–284. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.18E+04	8.96E+04	9.40E+04	8.96E+04	9.40E+04	-2.20E+03	2.19E+03
1.75	9.18E+04	8.79E+04	9.56E+04	8.79E+04	9.56E+04	-2.20E+03	2.18E+03
2.50	9.18E+04	8.62E+04	9.72E+04	8.62E+04	9.72E+04	-2.21E+03	2.17E+03
3.75	9.17E+04	8.33E+04	9.99E+04	8.34E+04	9.98E+04	-2.21E+03	2.16E+03
5.00	9.16E+04	8.04E+04	1.02E+05	8.05E+04	1.02E+05	-2.22E+03	2.15E+03

Table P–285. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.20E+04	9.00E+04	9.43E+04	9.01E+04	9.42E+04	-1.90E+03	2.28E+03
1.75	9.24E+04	8.98E+04	9.65E+04	8.98E+04	9.64E+04	-1.51E+03	2.28E+03
2.50	9.32E+04	8.98E+04	9.89E+04	8.98E+04	9.88E+04	-1.33E+03	2.27E+03
3.75	9.49E+04	8.98E+04	1.04E+05	9.00E+04	1.03E+05	-1.32E+03	2.28E+03
5.00	9.71E+04	8.98E+04	1.07E+05	9.02E+04	1.07E+05	-1.38E+03	2.02E+03

Table P–286. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.20E+04	9.00E+04	9.43E+04	9.01E+04	9.42E+04	-1.90E+03	2.28E+03
1.75	9.24E+04	8.98E+04	9.65E+04	8.98E+04	9.64E+04	-1.51E+03	2.28E+03
2.50	9.32E+04	8.98E+04	9.89E+04	8.98E+04	9.88E+04	-1.33E+03	2.27E+03
3.75	9.49E+04	8.98E+04	1.04E+05	9.00E+04	1.03E+05	-1.32E+03	2.28E+03
5.00	9.71E+04	8.98E+04	1.07E+05	9.02E+04	1.07E+05	-1.38E+03	2.02E+03

Table P–287. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NFA							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–288. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NSHIPMO							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.22E+04	9.05E+04	9.42E+04	9.05E+04	9.42E+04	-1.66E+03	2.04E+03
1.75	9.26E+04	9.02E+04	9.63E+04	9.02E+04	9.62E+04	-1.38E+03	2.09E+03
2.50	9.33E+04	9.02E+04	9.86E+04	9.02E+04	9.86E+04	-1.22E+03	2.10E+03
3.75	9.50E+04	9.02E+04	1.03E+05	9.03E+04	1.03E+05	-1.25E+03	2.15E+03
5.00	9.72E+04	9.02E+04	1.08E+05	9.03E+04	1.08E+05	-1.38E+03	2.20E+03

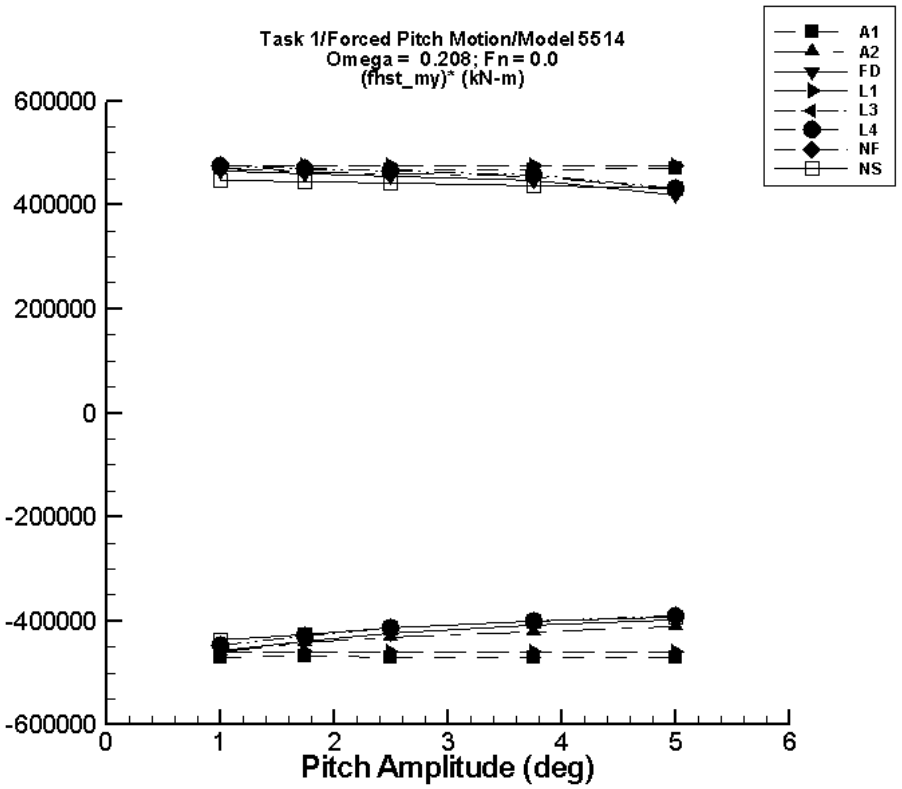

Figure P–37. Minimum and maximum of filtered $\left(M_y^{\text{hst}} - \langle M_y^{\text{hst}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–289. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle M_y^{\text{hst}} \rangle$	**Unfiltered** M_y^{hst}		**Filtered** M_y^{hst}		**Filtered** $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	0.300	-4.71E+05	4.71E+05	-4.71E+05	4.70E+05	-4.71E+05	4.70E+05
1.75	0.610	-8.20E+05	8.20E+05	-8.20E+05	8.19E+05	-4.69E+05	4.68E+05
2.50	0.653	-1.17E+06	1.17E+06	-1.17E+06	1.17E+06	-4.69E+05	4.68E+05
3.75	1.70	-1.76E+06	1.76E+06	-1.76E+06	1.76E+06	-4.69E+05	4.68E+05
5.00	1.78	-2.35E+06	2.35E+06	-2.35E+06	2.34E+06	-4.70E+05	4.69E+05

Table P–290. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle M_y^{\text{hst}} \rangle$	**Unfiltered** M_y^{hst}		**Filtered** M_y^{hst}		**Filtered** $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	5.22E+03	-4.55E+05	4.76E+05	-4.55E+05	4.75E+05	-4.60E+05	4.70E+05
1.75	1.76E+04	-7.55E+05	8.29E+05	-7.55E+05	8.28E+05	-4.41E+05	4.63E+05
2.50	3.56E+04	-1.05E+06	1.19E+06	-1.05E+06	1.19E+06	-4.32E+05	4.60E+05
3.75	7.00E+04	-1.51E+06	1.77E+06	-1.51E+06	1.77E+06	-4.21E+05	4.54E+05
5.00	9.86E+04	-1.95E+06	2.25E+06	-1.95E+06	2.25E+06	-4.10E+05	4.29E+05

Table P–291. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle M_y^{\text{hst}} \rangle$	**Unfiltered** M_y^{hst}		**Filtered** M_y^{hst}		**Filtered** $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	2.02E+04	-4.38E+05	4.87E+05	-4.37E+05	4.86E+05	-4.57E+05	4.66E+05
1.75	3.25E+04	-7.36E+05	8.40E+05	-7.35E+05	8.39E+05	-4.38E+05	4.61E+05
2.50	5.24E+04	-1.01E+06	1.19E+06	-1.01E+06	1.19E+06	-4.24E+05	4.55E+05
3.75	9.42E+04	-1.44E+06	1.78E+06	-1.44E+06	1.77E+06	-4.09E+05	4.48E+05
5.00	1.24E+05	-1.87E+06	2.22E+06	-1.87E+06	2.22E+06	-3.99E+05	4.20E+05

Table P–292. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle M_y^{\text{hst}} \rangle$	**Unfiltered** M_y^{hst}		**Filtered** M_y^{hst}		**Filtered** $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	0.550	-4.67E+05	4.67E+05	-4.67E+05	4.67E+05	-4.67E+05	4.67E+05
1.75	1.01	-8.18E+05	8.18E+05	-8.17E+05	8.17E+05	-4.67E+05	4.67E+05
2.50	1.11	-1.17E+06	1.17E+06	-1.17E+06	1.17E+06	-4.67E+05	4.67E+05
3.75	-5.65E-02	-1.75E+06	1.75E+06	-1.75E+06	1.75E+06	-4.67E+05	4.67E+05
5.00	2.94	-2.34E+06	2.34E+06	-2.34E+06	2.34E+06	-4.67E+05	4.67E+05

Table P–293. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle M_y^{\text{hst}} \rangle$	**Unfiltered** M_y^{hst}		**Filtered** M_y^{hst}		**Filtered** $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	4.16E+03	-4.53E+05	4.70E+05	-4.52E+05	4.70E+05	-4.57E+05	4.65E+05
1.75	1.64E+04	-7.50E+05	8.23E+05	-7.49E+05	8.22E+05	-4.38E+05	4.60E+05
2.50	3.63E+04	-1.02E+06	1.17E+06	-1.02E+06	1.17E+06	-4.23E+05	4.55E+05
3.75	7.79E+04	-1.46E+06	1.76E+06	-1.45E+06	1.76E+06	-4.09E+05	4.48E+05
5.00	1.10E+05	-1.89E+06	2.22E+06	-1.89E+06	2.22E+06	-4.00E+05	4.22E+05

Table P–294. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle M_y^{\text{hst}} \rangle$	**Unfiltered** M_y^{hst}		**Filtered** M_y^{hst}		**Filtered** $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	4.16E+03	-4.53E+05	4.70E+05	-4.52E+05	4.70E+05	-4.57E+05	4.65E+05
1.75	1.64E+04	-7.50E+05	8.23E+05	-7.49E+05	8.22E+05	-4.38E+05	4.60E+05
2.50	3.63E+04	-1.02E+06	1.17E+06	-1.02E+06	1.17E+06	-4.23E+05	4.55E+05
3.75	7.79E+04	-1.46E+06	1.76E+06	-1.45E+06	1.76E+06	-4.09E+05	4.48E+05
5.00	1.10E+05	-1.89E+06	2.22E+06	-1.89E+06	2.22E+06	-4.00E+05	4.22E+05

Table P–295. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NFA							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–296. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NSHIPMO							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	5.40E+03	-4.36E+05	4.56E+05	-4.31E+05	4.52E+05	-4.37E+05	4.46E+05
1.75	1.63E+04	-7.35E+05	8.02E+05	-7.28E+05	7.94E+05	-4.25E+05	4.44E+05
2.50	3.50E+04	-1.01E+06	1.15E+06	-9.99E+05	1.14E+06	-4.13E+05	4.41E+05
3.75	7.50E+04	-1.43E+06	1.72E+06	-1.43E+06	1.71E+06	-4.00E+05	4.36E+05
5.00	1.19E+05	-1.85E+06	2.28E+06	-1.84E+06	2.28E+06	-3.93E+05	4.31E+05

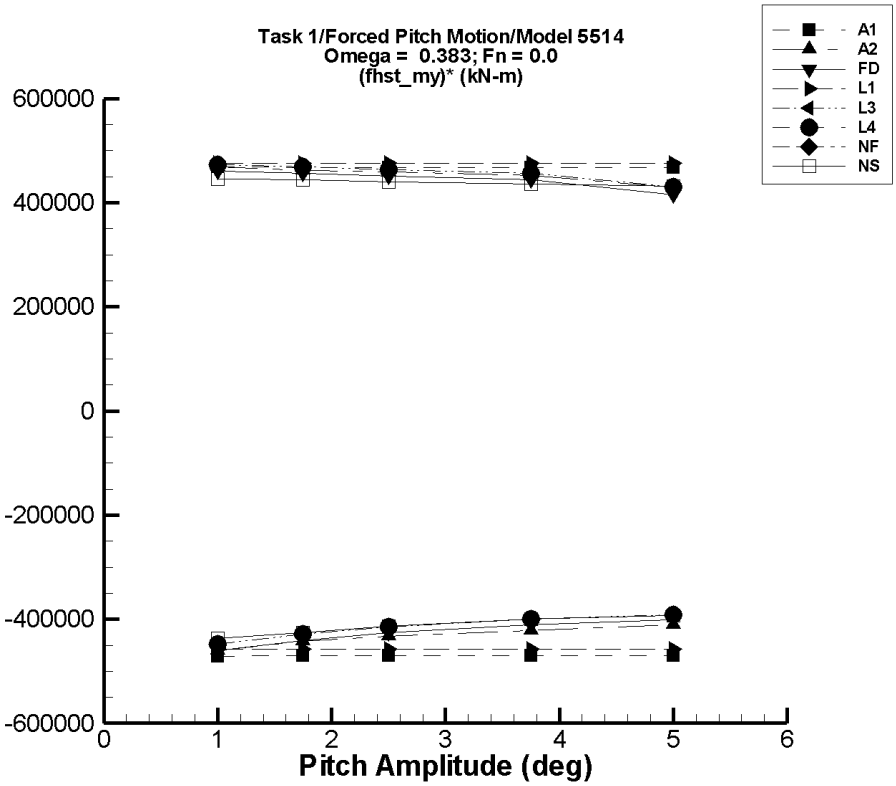

Figure P–38. Minimum and maximum of filtered $\left(M_y^{\text{hst}} - \langle M_y^{\text{hst}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–297. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle M_y^{\text{hst}} \rangle$	**Unfiltered** M_y^{hst}		**Filtered** M_y^{hst}		**Filtered** $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	-1.41E-02	-4.71E+05	4.71E+05	-4.72E+05	4.69E+05	-4.72E+05	4.69E+05
1.75	-1.52E-03	-8.20E+05	8.20E+05	-8.22E+05	8.17E+05	-4.70E+05	4.67E+05
2.50	-0.111	-1.17E+06	1.17E+06	-1.18E+06	1.17E+06	-4.70E+05	4.67E+05
3.75	-0.188	-1.76E+06	1.76E+06	-1.76E+06	1.75E+06	-4.70E+05	4.67E+05
5.00	3.99E-02	-2.35E+06	2.35E+06	-2.35E+06	2.34E+06	-4.71E+05	4.68E+05

Table P–298. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle M_y^{\text{hst}} \rangle$	**Unfiltered** M_y^{hst}		**Filtered** M_y^{hst}		**Filtered** $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	4.90E+03	-4.55E+05	4.76E+05	-4.55E+05	4.74E+05	-4.60E+05	4.69E+05
1.75	1.78E+04	-7.55E+05	8.29E+05	-7.56E+05	8.26E+05	-4.42E+05	4.62E+05
2.50	3.56E+04	-1.05E+06	1.19E+06	-1.05E+06	1.18E+06	-4.33E+05	4.59E+05
3.75	7.02E+04	-1.51E+06	1.77E+06	-1.51E+06	1.77E+06	-4.22E+05	4.52E+05
5.00	9.80E+04	-1.95E+06	2.25E+06	-1.96E+06	2.24E+06	-4.11E+05	4.29E+05

Table P–299. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle M_y^{\text{hst}} \rangle$	**Unfiltered** M_y^{hst}		**Filtered** M_y^{hst}		**Filtered** $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	2.02E+04	-4.37E+05	4.87E+05	-4.36E+05	4.85E+05	-4.56E+05	4.65E+05
1.75	3.24E+04	-7.36E+05	8.40E+05	-7.33E+05	8.37E+05	-4.37E+05	4.60E+05
2.50	5.22E+04	-1.01E+06	1.19E+06	-1.00E+06	1.19E+06	-4.23E+05	4.54E+05
3.75	9.39E+04	-1.44E+06	1.78E+06	-1.44E+06	1.77E+06	-4.08E+05	4.47E+05
5.00	1.24E+05	-1.87E+06	2.22E+06	-1.87E+06	2.22E+06	-3.98E+05	4.19E+05

Table P–300. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle M_y^{\text{hst}} \rangle$	**Unfiltered** M_y^{hst}		**Filtered** M_y^{hst}		**Filtered** $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	-2.92	-4.67E+05	4.67E+05	-4.67E+05	4.67E+05	-4.67E+05	4.67E+05
1.75	-4.85	-8.18E+05	8.18E+05	-8.17E+05	8.17E+05	-4.67E+05	4.67E+05
2.50	-6.89	-1.17E+06	1.17E+06	-1.17E+06	1.17E+06	-4.67E+05	4.67E+05
3.75	-15.8	-1.75E+06	1.75E+06	-1.75E+06	1.75E+06	-4.67E+05	4.67E+05
5.00	-14.0	-2.34E+06	2.34E+06	-2.33E+06	2.33E+06	-4.67E+05	4.67E+05

Table P–301. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle M_y^{\text{hst}} \rangle$	**Unfiltered** M_y^{hst}		**Filtered** M_y^{hst}		**Filtered** $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	4.17E+03	-4.53E+05	4.70E+05	-4.52E+05	4.69E+05	-4.56E+05	4.65E+05
1.75	1.65E+04	-7.50E+05	8.23E+05	-7.49E+05	8.21E+05	-4.37E+05	4.60E+05
2.50	3.63E+04	-1.02E+06	1.17E+06	-1.02E+06	1.17E+06	-4.23E+05	4.55E+05
3.75	7.78E+04	-1.46E+06	1.76E+06	-1.45E+06	1.76E+06	-4.08E+05	4.47E+05
5.00	1.09E+05	-1.89E+06	2.22E+06	-1.89E+06	2.22E+06	-3.99E+05	4.22E+05

Table P–302. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle M_y^{\text{hst}} \rangle$	**Unfiltered** M_y^{hst}		**Filtered** M_y^{hst}		**Filtered** $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	4.17E+03	-4.53E+05	4.70E+05	-4.52E+05	4.69E+05	-4.56E+05	4.65E+05
1.75	1.65E+04	-7.50E+05	8.23E+05	-7.49E+05	8.21E+05	-4.37E+05	4.60E+05
2.50	3.63E+04	-1.02E+06	1.17E+06	-1.02E+06	1.17E+06	-4.23E+05	4.55E+05
3.75	7.78E+04	-1.46E+06	1.76E+06	-1.45E+06	1.76E+06	-4.08E+05	4.47E+05
5.00	1.09E+05	-1.89E+06	2.22E+06	-1.89E+06	2.22E+06	-3.99E+05	4.22E+05

Table P–303. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NFA							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–304. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NSHIPMO							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	5.39E+03	-4.36E+05	4.56E+05	-4.31E+05	4.51E+05	-4.37E+05	4.46E+05
1.75	1.63E+04	-7.35E+05	8.02E+05	-7.28E+05	7.94E+05	-4.25E+05	4.44E+05
2.50	3.50E+04	-1.01E+06	1.15E+06	-9.98E+05	1.14E+06	-4.13E+05	4.41E+05
3.75	7.50E+04	-1.43E+06	1.72E+06	-1.43E+06	1.71E+06	-4.00E+05	4.36E+05
5.00	1.19E+05	-1.85E+06	2.28E+06	-1.84E+06	2.28E+06	-3.93E+05	4.31E+05

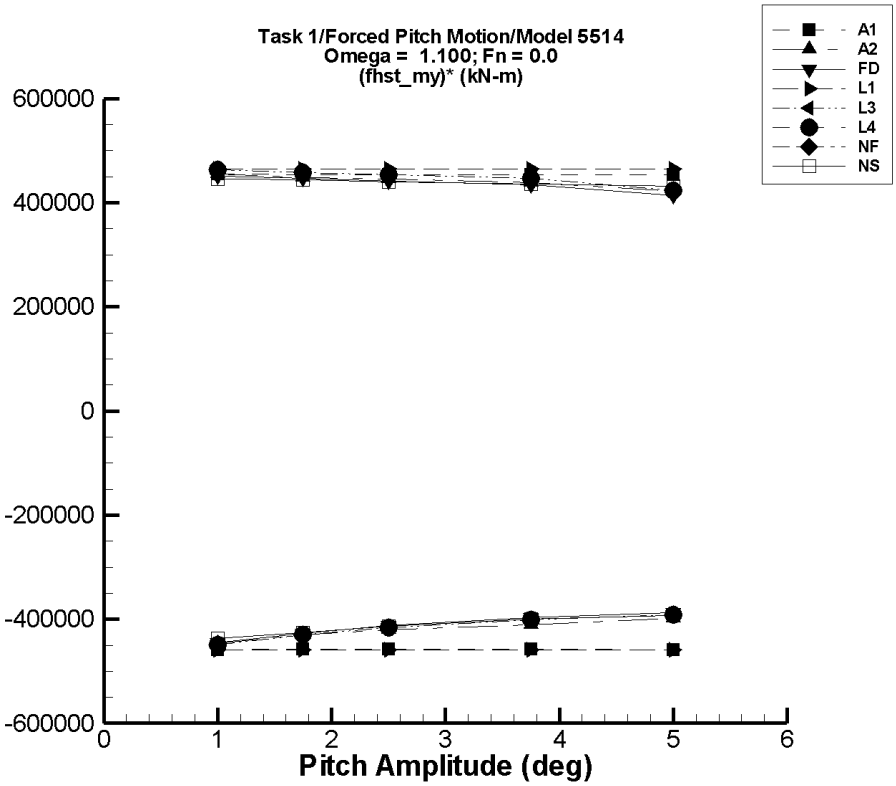

Figure P–39. Minimum and maximum of filtered $\left(M_y^{\text{hst}} - \langle M_y^{\text{hst}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–305. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle M_y^{\text{hst}} \rangle$	**Unfiltered** M_y^{hst}		**Filtered** M_y^{hst}		**Filtered** $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	0.489	-4.71E+05	4.70E+05	-4.59E+05	4.56E+05	-4.59E+05	4.56E+05
1.75	0.851	-8.20E+05	8.19E+05	-8.00E+05	7.94E+05	-4.57E+05	4.54E+05
2.50	1.21	-1.17E+06	1.17E+06	-1.14E+06	1.14E+06	-4.58E+05	4.54E+05
3.75	1.81	-1.76E+06	1.76E+06	-1.72E+06	1.70E+06	-4.58E+05	4.54E+05
5.00	2.44	-2.35E+06	2.35E+06	-2.29E+06	2.27E+06	-4.58E+05	4.55E+05

Table P–306. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle M_y^{\text{hst}} \rangle$	**Unfiltered** M_y^{hst}		**Filtered** M_y^{hst}		**Filtered** $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	5.20E+03	-4.55E+05	4.75E+05	-4.41E+05	4.61E+05	-4.47E+05	4.56E+05
1.75	1.77E+04	-7.55E+05	8.28E+05	-7.33E+05	8.03E+05	-4.29E+05	4.49E+05
2.50	3.56E+04	-1.05E+06	1.19E+06	-1.02E+06	1.15E+06	-4.20E+05	4.45E+05
3.75	7.01E+04	-1.51E+06	1.77E+06	-1.47E+06	1.72E+06	-4.10E+05	4.40E+05
5.00	9.74E+04	-1.95E+06	2.25E+06	-1.90E+06	2.21E+06	-3.99E+05	4.22E+05

Table P–307. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	2.02E+04	-4.38E+05	4.86E+05	-4.24E+05	4.72E+05	-4.44E+05	4.51E+05
1.75	3.24E+04	-7.36E+05	8.39E+05	-7.15E+05	8.14E+05	-4.27E+05	4.46E+05
2.50	5.23E+04	-1.01E+06	1.19E+06	-9.80E+05	1.16E+06	-4.13E+05	4.41E+05
3.75	9.38E+04	-1.44E+06	1.77E+06	-1.40E+06	1.72E+06	-3.98E+05	4.34E+05
5.00	1.23E+05	-1.87E+06	2.22E+06	-1.81E+06	2.19E+06	-3.87E+05	4.14E+05

Table P–308. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	-33.0	-4.67E+05	4.67E+05	-4.62E+05	4.62E+05	-4.62E+05	4.62E+05
1.75	-59.5	-8.17E+05	8.17E+05	-8.08E+05	8.08E+05	-4.62E+05	4.62E+05
2.50	-83.2	-1.17E+06	1.17E+06	-1.15E+06	1.15E+06	-4.62E+05	4.62E+05
3.75	-127.	-1.75E+06	1.75E+06	-1.73E+06	1.73E+06	-4.62E+05	4.62E+05
5.00	-166.	-2.34E+06	2.34E+06	-2.31E+06	2.31E+06	-4.62E+05	4.62E+05

Table P–309. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	4.13E+03	-4.52E+05	4.70E+05	-4.48E+05	4.64E+05	-4.52E+05	4.60E+05
1.75	1.64E+04	-7.50E+05	8.22E+05	-7.42E+05	8.13E+05	-4.33E+05	4.55E+05
2.50	3.62E+04	-1.02E+06	1.17E+06	-1.01E+06	1.16E+06	-4.19E+05	4.50E+05
3.75	7.73E+04	-1.45E+06	1.76E+06	-1.44E+06	1.74E+06	-4.05E+05	4.43E+05
5.00	1.08E+05	-1.89E+06	2.22E+06	-1.87E+06	2.21E+06	-3.95E+05	4.20E+05

Table P–310. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	4.13E+03	-4.52E+05	4.70E+05	-4.48E+05	4.64E+05	-4.52E+05	4.60E+05
1.75	1.64E+04	-7.50E+05	8.22E+05	-7.42E+05	8.13E+05	-4.33E+05	4.55E+05
2.50	3.62E+04	-1.02E+06	1.17E+06	-1.01E+06	1.16E+06	-4.19E+05	4.50E+05
3.75	7.73E+04	-1.45E+06	1.76E+06	-1.44E+06	1.74E+06	-4.05E+05	4.43E+05
5.00	1.08E+05	-1.89E+06	2.22E+06	-1.87E+06	2.21E+06	-3.95E+05	4.20E+05

Table P–311. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NFA							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–312. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NSHIPMO							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	5.39E+03	-4.36E+05	4.56E+05	-4.31E+05	4.51E+05	-4.37E+05	4.46E+05
1.75	1.63E+04	-7.35E+05	8.02E+05	-7.28E+05	7.94E+05	-4.25E+05	4.44E+05
2.50	3.50E+04	-1.01E+06	1.15E+06	-9.98E+05	1.14E+06	-4.13E+05	4.41E+05
3.75	7.50E+04	-1.43E+06	1.72E+06	-1.43E+06	1.71E+06	-4.00E+05	4.36E+05
5.00	1.19E+05	-1.85E+06	2.28E+06	-1.84E+06	2.28E+06	-3.93E+05	4.31E+05

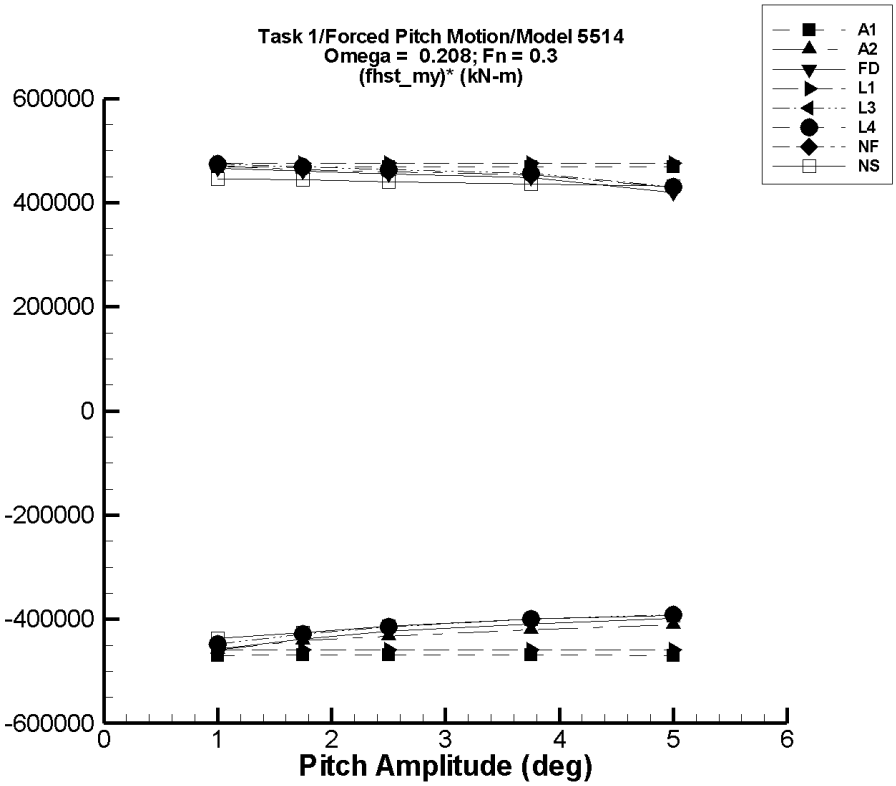

Figure P–40. Minimum and maximum of filtered $\left(M_y^{\text{hst}} - \langle M_y^{\text{hst}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–313. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	0.300	-4.71E+05	4.71E+05	-4.71E+05	4.70E+05	-4.71E+05	4.70E+05
1.75	0.610	-8.20E+05	8.20E+05	-8.20E+05	8.19E+05	-4.69E+05	4.68E+05
2.50	0.653	-1.17E+06	1.17E+06	-1.17E+06	1.17E+06	-4.69E+05	4.68E+05
3.75	1.70	-1.76E+06	1.76E+06	-1.76E+06	1.76E+06	-4.69E+05	4.68E+05
5.00	1.78	-2.35E+06	2.35E+06	-2.35E+06	2.34E+06	-4.70E+05	4.69E+05

Table P–314. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	5.21E+03	-4.55E+05	4.76E+05	-4.54E+05	4.75E+05	-4.60E+05	4.70E+05
1.75	1.76E+04	-7.55E+05	8.29E+05	-7.55E+05	8.28E+05	-4.41E+05	4.63E+05
2.50	3.56E+04	-1.05E+06	1.19E+06	-1.05E+06	1.19E+06	-4.32E+05	4.60E+05
3.75	7.00E+04	-1.51E+06	1.77E+06	-1.51E+06	1.77E+06	-4.21E+05	4.54E+05
5.00	9.86E+04	-1.95E+06	2.25E+06	-1.95E+06	2.25E+06	-4.10E+05	4.29E+05

Table P–315. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle M_y^{\text{hst}} \rangle$	**Unfiltered** M_y^{hst}		**Filtered** M_y^{hst}		**Filtered** $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	2.02E+04	-4.38E+05	4.87E+05	-4.37E+05	4.86E+05	-4.57E+05	4.66E+05
1.75	3.25E+04	-7.36E+05	8.40E+05	-7.35E+05	8.39E+05	-4.38E+05	4.61E+05
2.50	5.24E+04	-1.01E+06	1.19E+06	-1.01E+06	1.19E+06	-4.24E+05	4.55E+05
3.75	9.42E+04	-1.44E+06	1.78E+06	-1.44E+06	1.77E+06	-4.09E+05	4.48E+05
5.00	1.24E+05	-1.87E+06	2.22E+06	-1.87E+06	2.22E+06	-3.99E+05	4.20E+05

Table P–316. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle M_y^{\text{hst}} \rangle$	**Unfiltered** M_y^{hst}		**Filtered** M_y^{hst}		**Filtered** $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	0.550	-4.67E+05	4.67E+05	-4.67E+05	4.67E+05	-4.67E+05	4.67E+05
1.75	1.01	-8.18E+05	8.18E+05	-8.17E+05	8.17E+05	-4.67E+05	4.67E+05
2.50	1.11	-1.17E+06	1.17E+06	-1.17E+06	1.17E+06	-4.67E+05	4.67E+05
3.75	-5.65E-02	-1.75E+06	1.75E+06	-1.75E+06	1.75E+06	-4.67E+05	4.67E+05
5.00	2.94	-2.34E+06	2.34E+06	-2.34E+06	2.34E+06	-4.67E+05	4.67E+05

Table P–317. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	4.16E+03	-4.53E+05	4.70E+05	-4.52E+05	4.70E+05	-4.57E+05	4.65E+05
1.75	1.64E+04	-7.50E+05	8.23E+05	-7.49E+05	8.22E+05	-4.38E+05	4.60E+05
2.50	3.63E+04	-1.02E+06	1.17E+06	-1.02E+06	1.17E+06	-4.23E+05	4.55E+05
3.75	7.79E+04	-1.46E+06	1.76E+06	-1.45E+06	1.76E+06	-4.09E+05	4.48E+05
5.00	1.10E+05	-1.89E+06	2.22E+06	-1.89E+06	2.22E+06	-4.00E+05	4.22E+05

Table P–318. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	4.16E+03	-4.53E+05	4.70E+05	-4.52E+05	4.70E+05	-4.57E+05	4.65E+05
1.75	1.64E+04	-7.50E+05	8.23E+05	-7.49E+05	8.22E+05	-4.38E+05	4.60E+05
2.50	3.63E+04	-1.02E+06	1.17E+06	-1.02E+06	1.17E+06	-4.23E+05	4.55E+05
3.75	7.79E+04	-1.46E+06	1.76E+06	-1.45E+06	1.76E+06	-4.09E+05	4.48E+05
5.00	1.10E+05	-1.89E+06	2.22E+06	-1.89E+06	2.22E+06	-4.00E+05	4.22E+05

Table P–319. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NFA							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–320. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NSHIPMO							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	5.40E+03	-4.36E+05	4.56E+05	-4.31E+05	4.52E+05	-4.37E+05	4.46E+05
1.75	1.63E+04	-7.35E+05	8.02E+05	-7.28E+05	7.94E+05	-4.25E+05	4.44E+05
2.50	3.50E+04	-1.01E+06	1.15E+06	-9.99E+05	1.14E+06	-4.13E+05	4.41E+05
3.75	7.50E+04	-1.43E+06	1.72E+06	-1.43E+06	1.71E+06	-4.00E+05	4.36E+05
5.00	1.19E+05	-1.85E+06	2.28E+06	-1.84E+06	2.28E+06	-3.93E+05	4.31E+05

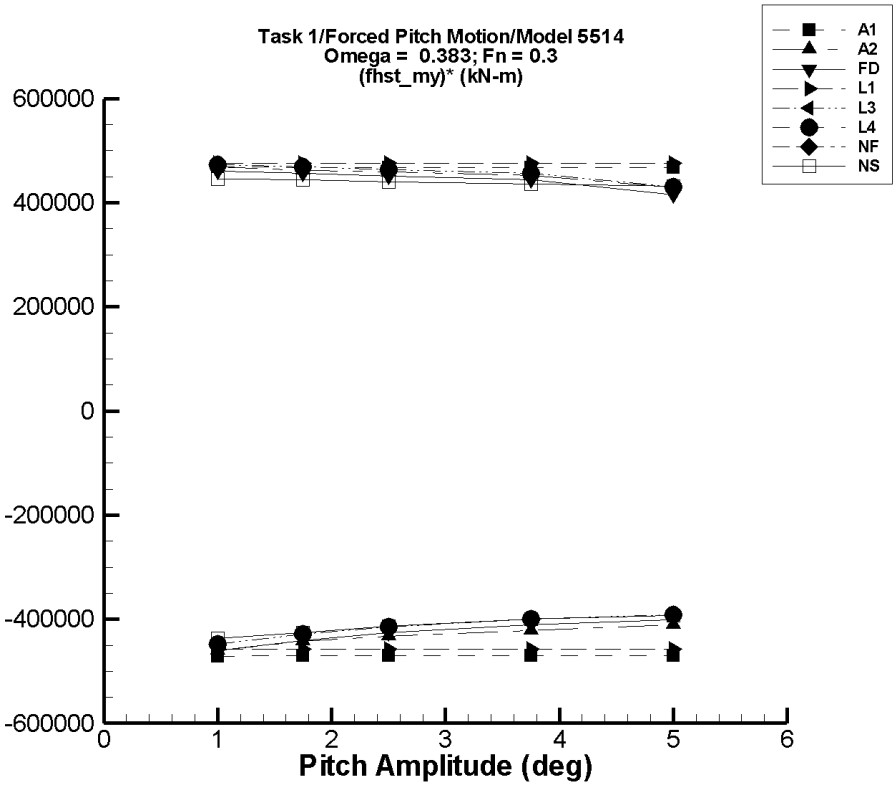

Figure P–41. Minimum and maximum of filtered $\left(M_y^{\text{hst}} - \langle M_y^{\text{hst}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–321. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle M_y^{\text{hst}} \rangle$	**Unfiltered** M_y^{hst}		**Filtered** M_y^{hst}		**Filtered** $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	-1.41E-02	-4.71E+05	4.71E+05	-4.72E+05	4.69E+05	-4.72E+05	4.69E+05
1.75	-1.52E-03	-8.20E+05	8.20E+05	-8.22E+05	8.17E+05	-4.70E+05	4.67E+05
2.50	-0.111	-1.17E+06	1.17E+06	-1.18E+06	1.17E+06	-4.70E+05	4.67E+05
3.75	-0.188	-1.76E+06	1.76E+06	-1.76E+06	1.75E+06	-4.70E+05	4.67E+05
5.00	3.99E-02	-2.35E+06	2.35E+06	-2.35E+06	2.34E+06	-4.71E+05	4.68E+05

Table P–322. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle M_y^{\text{hst}} \rangle$	**Unfiltered** M_y^{hst}		**Filtered** M_y^{hst}		**Filtered** $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	4.90E+03	-4.55E+05	4.76E+05	-4.55E+05	4.74E+05	-4.60E+05	4.69E+05
1.75	1.78E+04	-7.55E+05	8.29E+05	-7.56E+05	8.26E+05	-4.42E+05	4.62E+05
2.50	3.56E+04	-1.05E+06	1.19E+06	-1.05E+06	1.18E+06	-4.33E+05	4.59E+05
3.75	7.02E+04	-1.51E+06	1.77E+06	-1.51E+06	1.77E+06	-4.22E+05	4.52E+05
5.00	9.80E+04	-1.95E+06	2.25E+06	-1.96E+06	2.24E+06	-4.11E+05	4.29E+05

Table P–323. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle M_y^{\text{hst}} \rangle$	**Unfiltered** M_y^{hst}		**Filtered** M_y^{hst}		**Filtered** $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	2.02E+04	-4.37E+05	4.87E+05	-4.36E+05	4.85E+05	-4.56E+05	4.65E+05
1.75	3.24E+04	-7.36E+05	8.40E+05	-7.33E+05	8.37E+05	-4.37E+05	4.60E+05
2.50	5.22E+04	-1.01E+06	1.19E+06	-1.00E+06	1.19E+06	-4.23E+05	4.54E+05
3.75	9.39E+04	-1.44E+06	1.78E+06	-1.44E+06	1.77E+06	-4.08E+05	4.47E+05
5.00	1.24E+05	-1.87E+06	2.22E+06	-1.87E+06	2.22E+06	-3.98E+05	4.19E+05

Table P–324. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle M_y^{\text{hst}} \rangle$	**Unfiltered** M_y^{hst}		**Filtered** M_y^{hst}		**Filtered** $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	-2.92	-4.67E+05	4.67E+05	-4.67E+05	4.67E+05	-4.67E+05	4.67E+05
1.75	-4.85	-8.18E+05	8.18E+05	-8.17E+05	8.17E+05	-4.67E+05	4.67E+05
2.50	-6.89	-1.17E+06	1.17E+06	-1.17E+06	1.17E+06	-4.67E+05	4.67E+05
3.75	-15.8	-1.75E+06	1.75E+06	-1.75E+06	1.75E+06	-4.67E+05	4.67E+05
5.00	-14.0	-2.34E+06	2.34E+06	-2.33E+06	2.33E+06	-4.67E+05	4.67E+05

Table P–325. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	4.17E+03	-4.53E+05	4.70E+05	-4.52E+05	4.69E+05	-4.56E+05	4.65E+05
1.75	1.65E+04	-7.50E+05	8.23E+05	-7.49E+05	8.21E+05	-4.37E+05	4.60E+05
2.50	3.63E+04	-1.02E+06	1.17E+06	-1.02E+06	1.17E+06	-4.23E+05	4.55E+05
3.75	7.78E+04	-1.46E+06	1.76E+06	-1.45E+06	1.76E+06	-4.08E+05	4.47E+05
5.00	1.09E+05	-1.89E+06	2.22E+06	-1.89E+06	2.22E+06	-3.99E+05	4.22E+05

Table P–326. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	4.17E+03	-4.53E+05	4.70E+05	-4.52E+05	4.69E+05	-4.56E+05	4.65E+05
1.75	1.65E+04	-7.50E+05	8.23E+05	-7.49E+05	8.21E+05	-4.37E+05	4.60E+05
2.50	3.63E+04	-1.02E+06	1.17E+06	-1.02E+06	1.17E+06	-4.23E+05	4.55E+05
3.75	7.78E+04	-1.46E+06	1.76E+06	-1.45E+06	1.76E+06	-4.08E+05	4.47E+05
5.00	1.09E+05	-1.89E+06	2.22E+06	-1.89E+06	2.22E+06	-3.99E+05	4.22E+05

Table P–327. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NFA							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–328. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NSHIPMO							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	5.39E+03	-4.36E+05	4.56E+05	-4.31E+05	4.51E+05	-4.37E+05	4.46E+05
1.75	1.63E+04	-7.35E+05	8.02E+05	-7.28E+05	7.94E+05	-4.25E+05	4.44E+05
2.50	3.50E+04	-1.01E+06	1.15E+06	-9.98E+05	1.14E+06	-4.13E+05	4.41E+05
3.75	7.50E+04	-1.43E+06	1.72E+06	-1.43E+06	1.71E+06	-4.00E+05	4.36E+05
5.00	1.19E+05	-1.85E+06	2.28E+06	-1.84E+06	2.28E+06	-3.93E+05	4.31E+05

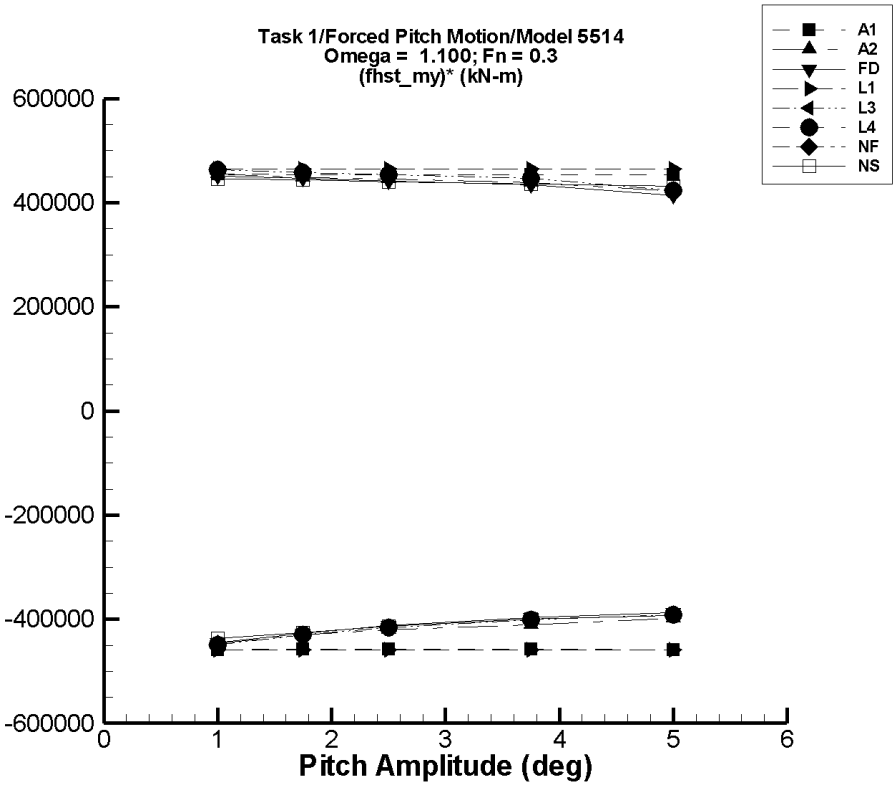

Figure P–42. Minimum and maximum of filtered $\left(M_y^{\text{hst}} - \langle M_y^{\text{hst}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–329. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	0.489	-4.71E+05	4.70E+05	-4.59E+05	4.56E+05	-4.59E+05	4.56E+05
1.75	0.851	-8.20E+05	8.19E+05	-8.00E+05	7.94E+05	-4.57E+05	4.54E+05
2.50	1.21	-1.17E+06	1.17E+06	-1.14E+06	1.14E+06	-4.58E+05	4.54E+05
3.75	1.81	-1.76E+06	1.76E+06	-1.72E+06	1.70E+06	-4.58E+05	4.54E+05
5.00	2.44	-2.35E+06	2.35E+06	-2.29E+06	2.27E+06	-4.58E+05	4.55E+05

Table P–330. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	5.20E+03	-4.55E+05	4.75E+05	-4.41E+05	4.61E+05	-4.47E+05	4.56E+05
1.75	1.77E+04	-7.55E+05	8.28E+05	-7.33E+05	8.03E+05	-4.29E+05	4.49E+05
2.50	3.56E+04	-1.05E+06	1.19E+06	-1.02E+06	1.15E+06	-4.20E+05	4.45E+05
3.75	7.01E+04	-1.51E+06	1.77E+06	-1.47E+06	1.72E+06	-4.10E+05	4.40E+05
5.00	9.74E+04	-1.95E+06	2.25E+06	-1.90E+06	2.21E+06	-3.99E+05	4.22E+05

Table P–331. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle M_y^{\text{hst}} \rangle$	**Unfiltered** M_y^{hst}		**Filtered** M_y^{hst}		**Filtered** $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	2.02E+04	-4.38E+05	4.86E+05	-4.24E+05	4.72E+05	-4.44E+05	4.51E+05
1.75	3.24E+04	-7.36E+05	8.39E+05	-7.15E+05	8.14E+05	-4.27E+05	4.46E+05
2.50	5.23E+04	-1.01E+06	1.19E+06	-9.80E+05	1.16E+06	-4.13E+05	4.41E+05
3.75	9.38E+04	-1.44E+06	1.77E+06	-1.40E+06	1.72E+06	-3.98E+05	4.34E+05
5.00	1.23E+05	-1.87E+06	2.22E+06	-1.81E+06	2.19E+06	-3.87E+05	4.14E+05

Table P–332. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle M_y^{\text{hst}} \rangle$	**Unfiltered** M_y^{hst}		**Filtered** M_y^{hst}		**Filtered** $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	-33.0	-4.67E+05	4.67E+05	-4.62E+05	4.62E+05	-4.62E+05	4.62E+05
1.75	-59.5	-8.17E+05	8.17E+05	-8.08E+05	8.08E+05	-4.62E+05	4.62E+05
2.50	-83.2	-1.17E+06	1.17E+06	-1.15E+06	1.15E+06	-4.62E+05	4.62E+05
3.75	-127.	-1.75E+06	1.75E+06	-1.73E+06	1.73E+06	-4.62E+05	4.62E+05
5.00	-166.	-2.34E+06	2.34E+06	-2.31E+06	2.31E+06	-4.62E+05	4.62E+05

Table P–333. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	4.13E+03	-4.52E+05	4.70E+05	-4.48E+05	4.64E+05	-4.52E+05	4.60E+05
1.75	1.64E+04	-7.50E+05	8.22E+05	-7.42E+05	8.13E+05	-4.33E+05	4.55E+05
2.50	3.62E+04	-1.02E+06	1.17E+06	-1.01E+06	1.16E+06	-4.19E+05	4.50E+05
3.75	7.73E+04	-1.45E+06	1.76E+06	-1.44E+06	1.74E+06	-4.05E+05	4.43E+05
5.00	1.08E+05	-1.89E+06	2.22E+06	-1.87E+06	2.21E+06	-3.95E+05	4.20E+05

Table P–334. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	4.13E+03	-4.52E+05	4.70E+05	-4.48E+05	4.64E+05	-4.52E+05	4.60E+05
1.75	1.64E+04	-7.50E+05	8.22E+05	-7.42E+05	8.13E+05	-4.33E+05	4.55E+05
2.50	3.62E+04	-1.02E+06	1.17E+06	-1.01E+06	1.16E+06	-4.19E+05	4.50E+05
3.75	7.73E+04	-1.45E+06	1.76E+06	-1.44E+06	1.74E+06	-4.05E+05	4.43E+05
5.00	1.08E+05	-1.89E+06	2.22E+06	-1.87E+06	2.21E+06	-3.95E+05	4.20E+05

Table P–335. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NFA							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–336. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NSHIPMO							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	5.39E+03	-4.36E+05	4.56E+05	-4.31E+05	4.51E+05	-4.37E+05	4.46E+05
1.75	1.63E+04	-7.35E+05	8.02E+05	-7.28E+05	7.94E+05	-4.25E+05	4.44E+05
2.50	3.50E+04	-1.01E+06	1.15E+06	-9.98E+05	1.14E+06	-4.13E+05	4.41E+05
3.75	7.50E+04	-1.43E+06	1.72E+06	-1.43E+06	1.71E+06	-4.00E+05	4.36E+05
5.00	1.19E+05	-1.85E+06	2.28E+06	-1.84E+06	2.28E+06	-3.93E+05	4.31E+05

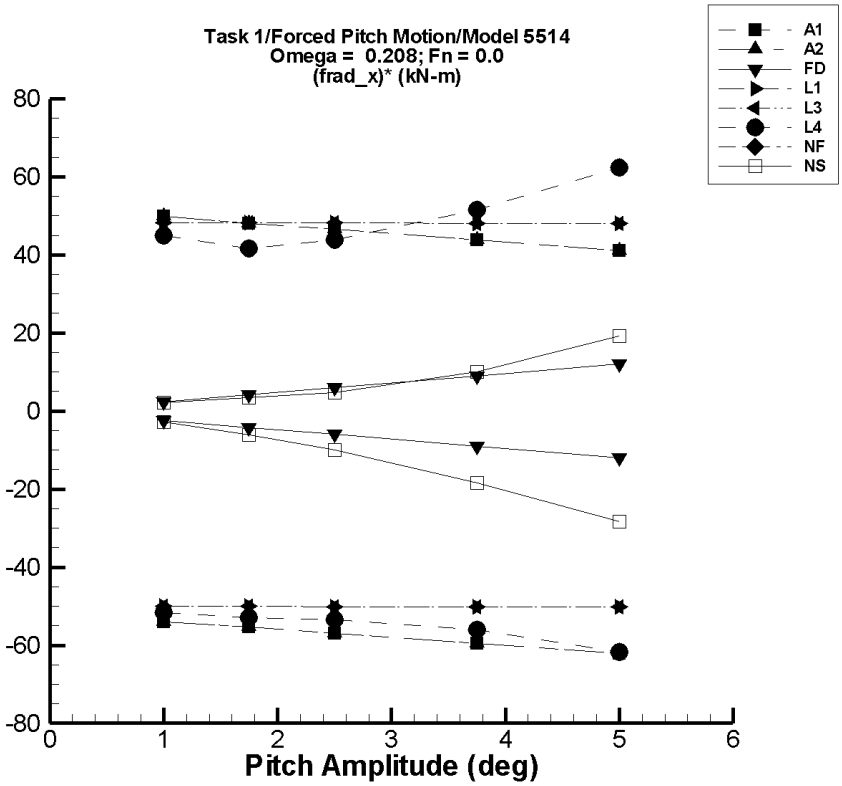

Figure P–43. Minimum and maximum of filtered $\left(F_x^{\text{rad}} - \langle F_x^{\text{rad}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–337. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	-2.12	-60.2	52.3	-56.1	47.8	-54.0	49.9
1.75	-6.38	-110.	86.1	-103.	77.8	-55.3	48.1
2.50	-13.0	-165.	116.	-155.	103.	-56.9	46.5
3.75	-29.2	-266.	155.	-252.	135.	-59.4	43.8
5.00	-51.9	-379.	183.	-362.	154.	-62.1	41.2

Table P–338. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	-2.12	-60.2	52.3	-56.1	47.8	-54.0	49.9
1.75	-6.38	-110.	86.1	-103.	77.8	-55.3	48.1
2.50	-13.0	-165.	116.	-155.	103.	-56.9	46.5
3.75	-29.2	-266.	155.	-252.	135.	-59.4	43.8
5.00	-51.9	-379.	183.	-362.	154.	-62.1	41.2

Table P–339. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	-1.89	-4.30	0.522	-4.29	0.512	-2.40	2.40
1.75	-5.79	-13.2	1.60	-13.1	1.57	-4.20	4.20
2.50	-11.8	-26.9	3.26	-26.8	3.20	-6.00	6.00
3.75	-26.6	-60.5	7.35	-60.3	7.20	-9.00	9.01
5.00	-47.2	-107.	13.1	-107.	12.8	-12.0	12.0

Table P–340. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	4.05E-02	-49.1	49.2	-49.1	49.2	-49.1	49.1
1.75	0.127	-86.0	86.1	-85.9	86.0	-49.2	49.1
2.50	0.261	-123.	123.	-123.	123.	-49.2	49.1
3.75	0.591	-184.	184.	-184.	184.	-49.3	49.0
5.00	1.05	-246.	246.	-246.	246.	-49.3	49.0

Table P–341. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	4.05E-02	-49.1	49.2	-49.1	49.2	-49.1	49.1
1.75	0.127	-86.0	86.1	-85.9	86.0	-49.2	49.1
2.50	0.261	-123.	123.	-123.	123.	-49.2	49.1
3.75	0.591	-184.	184.	-184.	184.	-49.3	49.0
5.00	1.05	-246.	246.	-246.	246.	-49.3	49.0

Table P–342. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	-0.865	-51.6	45.1	-51.5	45.1	-50.7	46.0
1.75	-2.39	-93.2	72.9	-93.1	72.5	-51.9	42.8
2.50	-4.36	-135.	109.	-135.	108.	-52.3	45.0
3.75	-7.92	-214.	192.	-213.	190.	-54.7	52.9
5.00	-9.65	-316.	314.	-311.	309.	-60.3	63.8

Table P–343. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NFA							
θ_a (°)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN/°)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–344. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NSHIPMO							
θ_a (°)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN/°)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN/°)
1.00	-1.75	-4.69	0.436	-4.58	0.338	-2.83	2.09
1.75	-4.80	-15.8	1.35	-15.4	1.07	-6.05	3.35
2.50	-8.85	-34.4	3.48	-33.6	2.77	-9.89	4.65
3.75	-17.4	-87.6	21.3	-86.2	20.5	-18.4	10.1
5.00	-27.5	-170.	69.6	-169.	68.4	-28.3	19.2

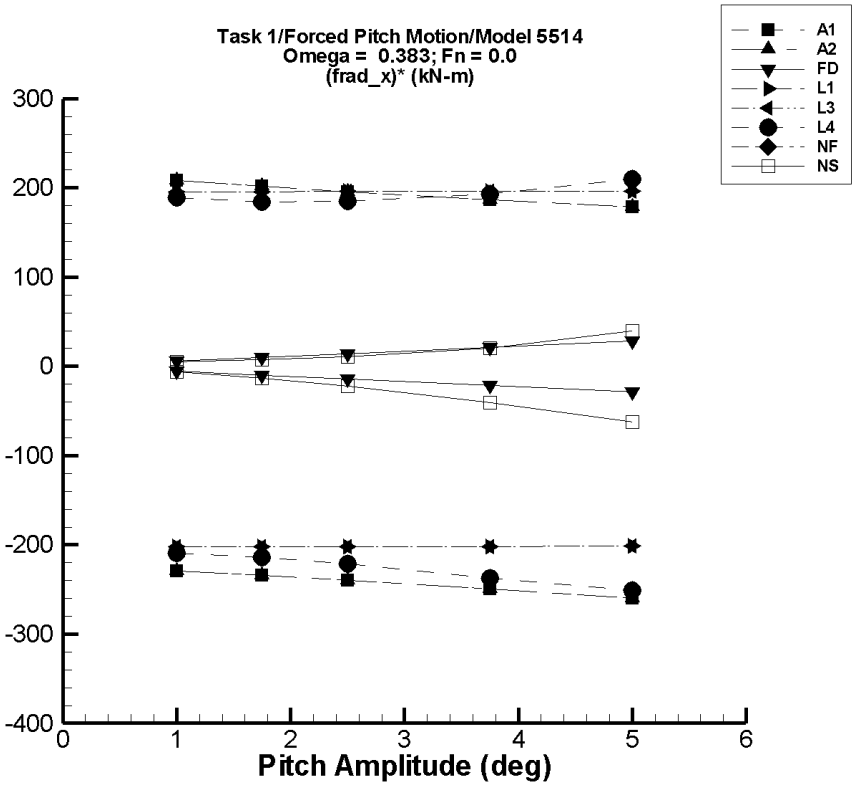

Figure P–44. Minimum and maximum of filtered $\left(F_x^{\text{rad}} - \langle F_x^{\text{rad}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–345. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	-6.93	-237.	204.	-236.	201.	-229.	208.
1.75	-20.9	-432.	336.	-430.	332.	-234.	202.
2.50	-42.5	-645.	453.	-642.	448.	-240.	196.
3.75	-95.3	-1.04E+03	621.	-1.03E+03	606.	-249.	187.
5.00	-169.	-1.47E+03	757.	-1.47E+03	725.	-259.	179.

Table P–346. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	-6.93	-237.	204.	-236.	201.	-229.	208.
1.75	-20.9	-432.	336.	-430.	332.	-234.	202.
2.50	-42.5	-645.	453.	-642.	448.	-240.	196.
3.75	-95.3	-1.04E+03	621.	-1.03E+03	606.	-249.	187.
5.00	-169.	-1.47E+03	757.	-1.47E+03	725.	-259.	179.

Table P–347. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	-3.77	-9.50	1.96	-9.41	1.88	-5.64	5.65
1.75	-11.5	-29.1	5.99	-28.8	5.75	-9.88	9.88
2.50	-23.6	-59.3	12.2	-58.8	11.7	-14.1	14.1
3.75	-53.0	-133.	27.5	-132.	26.4	-21.2	21.2
5.00	-94.1	-237.	48.9	-235.	46.9	-28.2	28.2

Table P–348. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	-0.195	-199.	199.	-199.	199.	-199.	199.
1.75	-0.574	-349.	349.	-348.	348.	-199.	199.
2.50	-1.15	-498.	498.	-498.	497.	-199.	199.
3.75	-2.56	-748.	747.	-747.	746.	-198.	200.
5.00	-4.53	-997.	996.	-996.	994.	-198.	200.

Table P–349. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-0.195	-199.	199.	-199.	199.	-199.	199.
1.75	-0.574	-349.	349.	-348.	348.	-199.	199.
2.50	-1.15	-498.	498.	-498.	497.	-199.	199.
3.75	-2.56	-748.	747.	-747.	746.	-198.	200.
5.00	-4.53	-997.	996.	-996.	994.	-198.	200.

Table P–350. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-6.00	-212.	186.	-211.	186.	-205.	192.
1.75	-16.7	-386.	313.	-385.	313.	-211.	188.
2.50	-30.5	-575.	442.	-574.	441.	-217.	189.
3.75	-57.8	-935.	683.	-933.	681.	-233.	197.
5.00	-77.7	-1.32E+03	990.	-1.31E+03	988.	-247.	213.

Table P–351. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NFA							
θ_a (°)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN/°)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–352. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NSHIPMO							
θ_a (°)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN/°)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN/°)
1.00	-3.69	-10.3	1.41	-10.1	1.19	-6.38	4.88
1.75	-10.1	-34.6	4.53	-33.7	3.75	-13.5	7.93
2.50	-18.7	-75.2	10.7	-73.2	8.96	-21.8	11.1
3.75	-36.8	-191.	42.3	-188.	40.6	-40.3	20.6
5.00	-58.6	-372.	141.	-368.	138.	-61.9	39.4

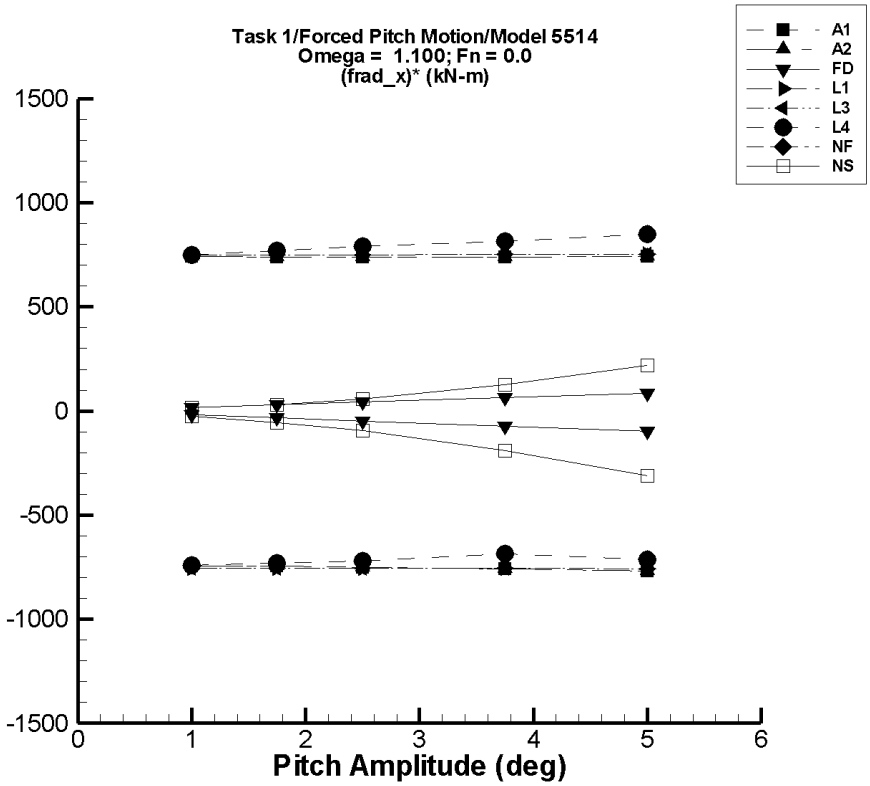

Figure P–45. Minimum and maximum of filtered $\left(F_x^{\text{rad}} - \langle F_x^{\text{rad}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–353. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-13.5	-779.	753.	-756.	730.	-743.	743.
1.75	-40.0	-1.38E+03	1.29E+03	-1.34E+03	1.25E+03	-745.	738.
2.50	-81.0	-2.02E+03	1.82E+03	-1.96E+03	1.76E+03	-750.	737.
3.75	-181.	-3.12E+03	2.68E+03	-3.03E+03	2.59E+03	-759.	739.
5.00	-321.	-4.32E+03	3.51E+03	-4.17E+03	3.38E+03	-770.	741.

Table P–354. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-13.5	-779.	753.	-756.	730.	-743.	743.
1.75	-40.0	-1.38E+03	1.29E+03	-1.34E+03	1.25E+03	-745.	738.
2.50	-81.0	-2.02E+03	1.82E+03	-1.96E+03	1.76E+03	-750.	737.
3.75	-181.	-3.12E+03	2.68E+03	-3.03E+03	2.59E+03	-759.	739.
5.00	-321.	-4.32E+03	3.51E+03	-4.17E+03	3.38E+03	-770.	741.

Table P–355. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-15.0	-35.6	5.68	-33.1	3.42	-18.1	18.4
1.75	-45.9	-109.	17.4	-101.	10.5	-31.7	32.2
2.50	-93.6	-223.	35.5	-207.	21.4	-45.3	46.0
3.75	-211.	-501.	79.9	-465.	48.1	-68.0	69.0
5.00	-374.	-890.	142.	-827.	85.5	-90.6	91.9

Table P–356. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	6.48	-752.	766.	-744.	758.	-750.	752.
1.75	19.2	-1.31E+03	1.35E+03	-1.29E+03	1.34E+03	-750.	753.
2.50	38.6	-1.86E+03	1.94E+03	-1.84E+03	1.92E+03	-750.	754.
3.75	85.9	-2.76E+03	2.95E+03	-2.73E+03	2.92E+03	-750.	756.
5.00	152.	-3.65E+03	3.99E+03	-3.61E+03	3.94E+03	-752.	758.

Table P–357. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	6.49	-752.	766.	-744.	758.	-750.	752.
1.75	19.2	-1.31E+03	1.35E+03	-1.29E+03	1.34E+03	-750.	753.
2.50	38.6	-1.86E+03	1.94E+03	-1.84E+03	1.92E+03	-750.	754.
3.75	85.9	-2.76E+03	2.95E+03	-2.73E+03	2.92E+03	-750.	756.
5.00	152.	-3.65E+03	3.99E+03	-3.61E+03	3.94E+03	-752.	758.

Table P–358. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-3.06	-754.	768.	-739.	750.	-736.	753.
1.75	-6.93	-1.31E+03	1.44E+03	-1.27E+03	1.35E+03	-723.	777.
2.50	-14.0	-1.86E+03	2.12E+03	-1.79E+03	1.98E+03	-712.	798.
3.75	-35.6	-2.69E+03	3.68E+03	-2.57E+03	3.06E+03	-676.	825.
5.00	-124.	-3.76E+03	5.12E+03	-3.63E+03	4.17E+03	-702.	859.

Table P–359. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NFA							
θ_a (°)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN/°)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–360. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NSHIPMO							
θ_a (°)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN/°)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN/°)
1.00	-13.3	-38.1	5.55	-37.2	4.30	-23.9	17.6
1.75	-37.8	-138.	17.2	-134.	13.6	-55.2	29.3
2.50	-72.3	-318.	77.1	-309.	71.8	-94.6	57.7
3.75	-160.	-895.	324.	-879.	315.	-192.	127.
5.00	-286.	-1.86E+03	826.	-1.84E+03	814.	-311.	220.

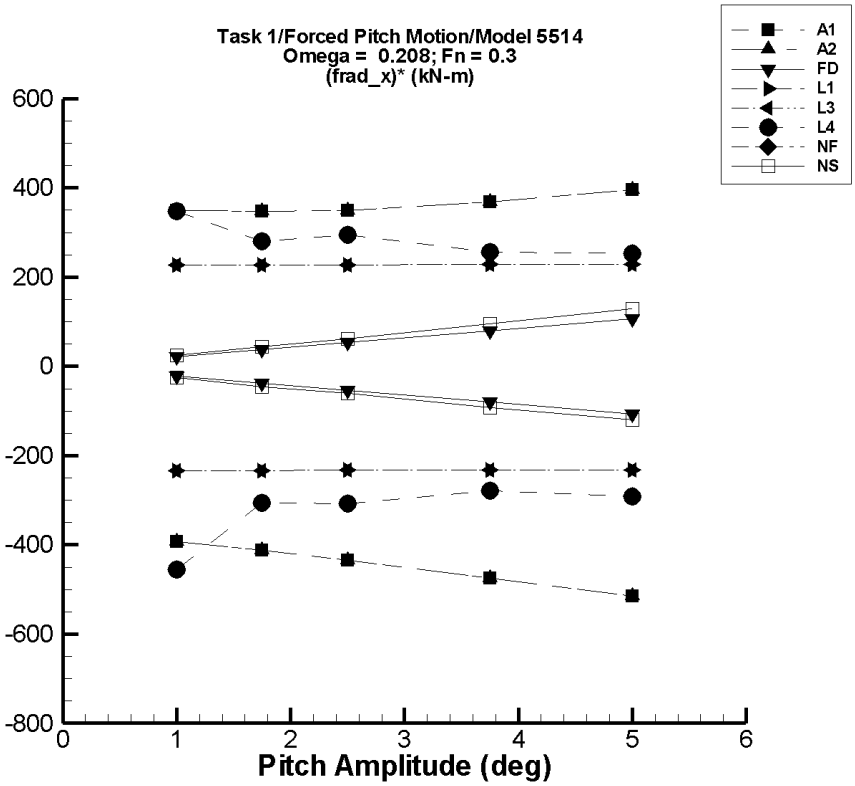

Figure P–46. Minimum and maximum of filtered $\left(F_x^{\text{rad}} - \langle F_x^{\text{rad}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–361. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-5.84	-400.	343.	-399.	343.	-393.	349.
1.75	-16.4	-739.	592.	-738.	593.	-412.	348.
2.50	-32.4	-1.12E+03	857.	-1.12E+03	841.	-435.	349.
3.75	-70.8	-1.85E+03	1.32E+03	-1.85E+03	1.31E+03	-474.	368.
5.00	-124.	-2.70E+03	1.86E+03	-2.70E+03	1.86E+03	-515.	396.

Table P–362. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-5.84	-400.	343.	-399.	343.	-393.	349.
1.75	-16.4	-739.	592.	-738.	593.	-412.	348.
2.50	-32.4	-1.12E+03	857.	-1.12E+03	841.	-435.	349.
3.75	-70.8	-1.85E+03	1.32E+03	-1.85E+03	1.31E+03	-474.	368.
5.00	-124.	-2.70E+03	1.86E+03	-2.70E+03	1.86E+03	-515.	396.

Table P–363. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.77	-11.6	31.1	-11.5	31.1	-21.3	21.3
1.75	29.9	-35.5	95.4	-35.3	95.1	-37.2	37.2
2.50	61.0	-72.5	195.	-71.9	194.	-53.2	53.2
3.75	137.	-163.	438.	-162.	436.	-79.8	79.8
5.00	244.	-290.	778.	-288.	776.	-106.	106.

Table P–364. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-332.	-562.	-101.	-562.	-101.	-230.	231.
1.75	-331.	-734.	73.1	-734.	72.6	-230.	231.
2.50	-330.	-905.	248.	-905.	247.	-230.	231.
3.75	-328.	-1.19E+03	539.	-1.19E+03	539.	-230.	231.
5.00	-326.	-1.47E+03	833.	-1.47E+03	833.	-229.	232.

Table P–365. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-332.	-562.	-101.	-562.	-101.	-230.	231.
1.75	-331.	-734.	72.8	-734.	72.6	-230.	231.
2.50	-330.	-905.	247.	-905.	247.	-230.	231.
3.75	-328.	-1.19E+03	539.	-1.19E+03	539.	-230.	231.
5.00	-326.	-1.47E+03	833.	-1.47E+03	833.	-229.	232.

Table P–366. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-315.	-783.	279.	-768.	35.7	-453.	351.
1.75	-321.	-882.	479.	-850.	174.	-302.	283.
2.50	-321.	-1.11E+03	766.	-1.08E+03	421.	-305.	297.
3.75	-346.	-1.43E+03	1.03E+03	-1.38E+03	624.	-276.	259.
5.00	-369.	-1.94E+03	1.31E+03	-1.81E+03	912.	-289.	256.

Table P–367. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NFA							
θ_a (°)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN/°)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–368. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NSHIPMO							
θ_a (°)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN/°)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN/°)
1.00	13.2	-12.4	39.2	-11.5	38.3	-24.7	25.1
1.75	39.9	-43.9	120.	-40.4	116.	-45.9	43.7
2.50	80.7	-82.8	243.	-70.3	237.	-60.4	62.4
3.75	178.	-182.	544.	-171.	535.	-93.1	95.1
5.00	304.	-309.	959.	-298.	946.	-120.	128.

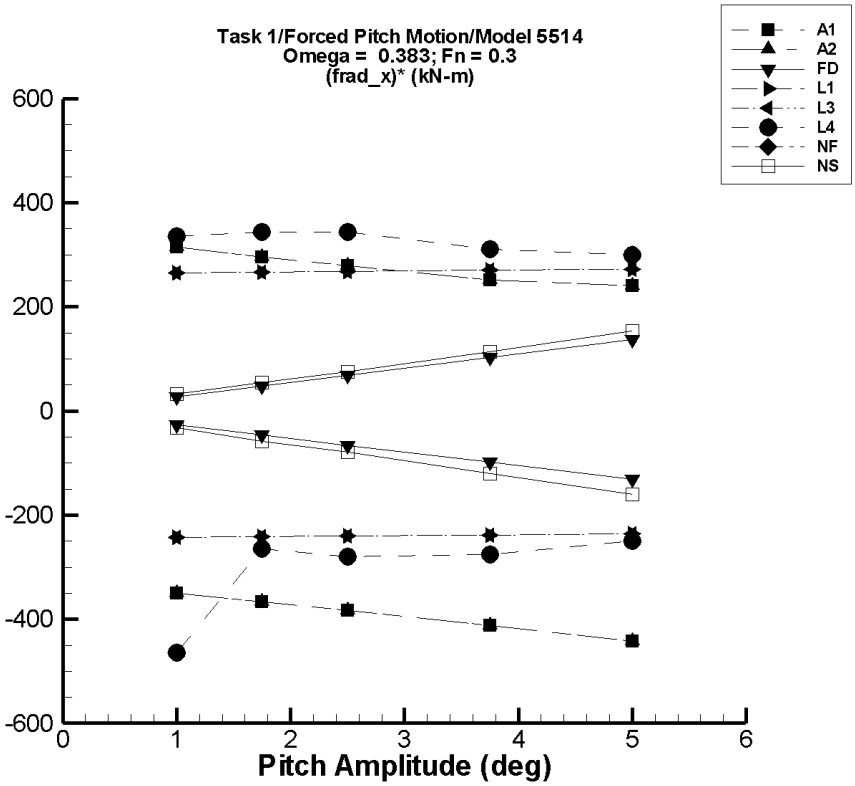

Figure P–47. Minimum and maximum of filtered $\left(F_x^{\text{rad}} - \langle F_x^{\text{rad}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–369. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	9.31	-363.	325.	-341.	324.	-350.	315.
1.75	27.0	-654.	547.	-614.	545.	-366.	296.
2.50	54.1	-965.	753.	-905.	751.	-384.	279.
3.75	120.	-1.52E+03	1.07E+03	-1.43E+03	1.06E+03	-413.	252.
5.00	212.	-2.13E+03	1.44E+03	-2.00E+03	1.42E+03	-442.	241.

Table P–370. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	9.31	-363.	325.	-341.	324.	-350.	315.
1.75	27.0	-654.	547.	-614.	545.	-366.	296.
2.50	54.1	-965.	753.	-905.	751.	-384.	279.
3.75	120.	-1.52E+03	1.07E+03	-1.43E+03	1.06E+03	-413.	252.
5.00	212.	-2.13E+03	1.44E+03	-2.00E+03	1.42E+03	-442.	241.

Table P–371. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.99	-17.4	37.4	-17.0	37.0	-27.0	27.0
1.75	30.6	-53.2	114.	-52.0	113.	-47.2	47.2
2.50	62.4	-109.	233.	-106.	231.	-67.4	67.4
3.75	140.	-244.	525.	-239.	519.	-101.	101.
5.00	250.	-434.	933.	-424.	923.	-135.	135.

Table P–372. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-331.	-584.	-74.5	-583.	-74.8	-252.	256.
1.75	-328.	-768.	123.	-767.	122.	-251.	257.
2.50	-324.	-949.	323.	-948.	323.	-250.	259.
3.75	-315.	-1.24E+03	666.	-1.24E+03	664.	-247.	261.
5.00	-301.	-1.53E+03	1.02E+03	-1.53E+03	1.02E+03	-245.	263.

Table P–373. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-331.	-584.	-74.5	-583.	-74.9	-252.	256.
1.75	-328.	-768.	123.	-768.	122.	-251.	257.
2.50	-324.	-949.	323.	-948.	322.	-250.	259.
3.75	-315.	-1.24E+03	666.	-1.24E+03	664.	-247.	261.
5.00	-301.	-1.53E+03	1.02E+03	-1.53E+03	1.02E+03	-245.	263.

Table P–374. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-299.	-802.	422.	-773.	27.1	-475.	326.
1.75	-300.	-854.	670.	-781.	284.	-275.	334.
2.50	-297.	-1.11E+03	862.	-1.02E+03	538.	-289.	334.
3.75	-291.	-1.43E+03	1.15E+03	-1.36E+03	843.	-284.	302.
5.00	-292.	-1.72E+03	1.45E+03	-1.58E+03	1.16E+03	-258.	291.

Table P–375. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NFA							
θ_a (°)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN/°)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–376. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NSHIPMO							
θ_a (°)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN/°)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN/°)
1.00	17.9	-15.3	52.1	-14.0	50.9	-31.9	33.0
1.75	54.7	-52.0	157.	-47.1	150.	-58.2	54.5
2.50	112.	-97.5	309.	-85.8	301.	-79.0	75.5
3.75	246.	-213.	686.	-203.	674.	-120.	114.
5.00	429.	-381.	1.21E+03	-371.	1.20E+03	-160.	153.

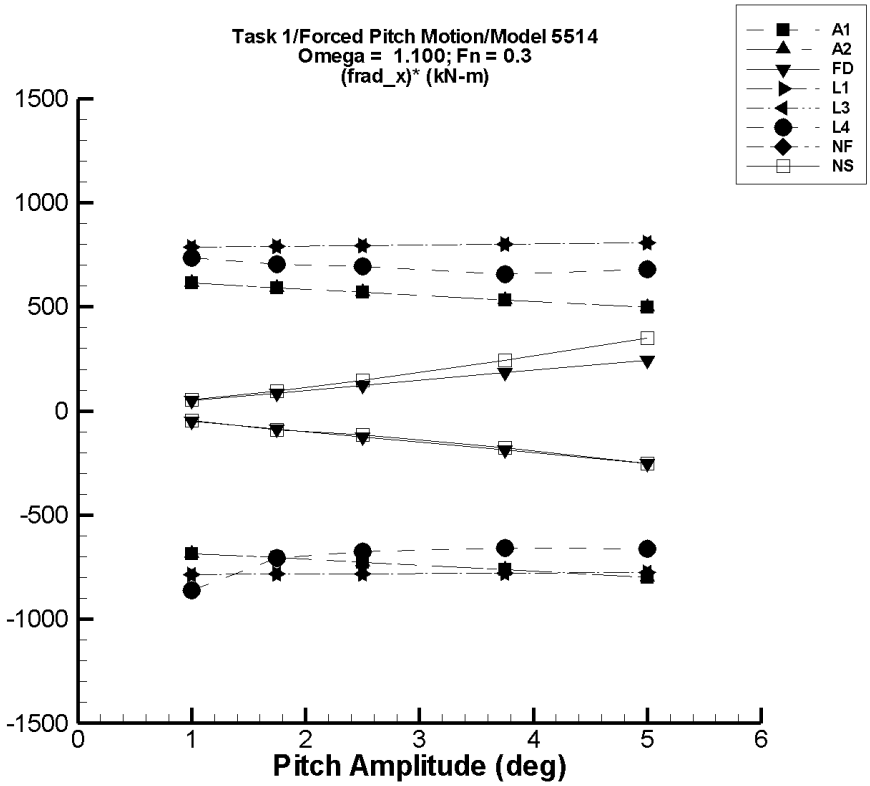

Figure P–48. Minimum and maximum of filtered $\left(F_x^{\text{rad}} - \langle F_x^{\text{rad}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–377. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	-6.81	-716.	628.	-692.	609.	-685.	616.
1.75	-14.9	-1.30E+03	1.05E+03	-1.25E+03	1.02E+03	-704.	592.
2.50	-25.7	-1.92E+03	1.43E+03	-1.84E+03	1.40E+03	-726.	570.
3.75	-49.6	-3.05E+03	1.98E+03	-2.91E+03	1.95E+03	-763.	534.
5.00	-80.8	-4.29E+03	2.43E+03	-4.08E+03	2.42E+03	-800.	499.

Table P–378. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	-6.81	-716.	628.	-692.	609.	-685.	616.
1.75	-14.9	-1.30E+03	1.05E+03	-1.25E+03	1.02E+03	-704.	592.
2.50	-25.7	-1.92E+03	1.43E+03	-1.84E+03	1.40E+03	-726.	570.
3.75	-49.6	-3.05E+03	1.98E+03	-2.91E+03	1.95E+03	-763.	534.
5.00	-80.8	-4.29E+03	2.43E+03	-4.08E+03	2.42E+03	-800.	499.

Table P–379. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	0.918	-55.6	57.5	-48.7	50.5	-49.6	49.6
1.75	2.81	-170.	176.	-149.	155.	-86.8	86.8
2.50	5.73	-347.	359.	-304.	316.	-124.	124.
3.75	12.9	-782.	808.	-685.	710.	-186.	186.
5.00	22.9	-1.39E+03	1.44E+03	-1.22E+03	1.26E+03	-248.	248.

Table P–380. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
$\boldsymbol{\theta_a}$ (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-320.	-1.11E+03	480.	-1.10E+03	471.	-782.	792.
1.75	-298.	-1.68E+03	1.11E+03	-1.66E+03	1.09E+03	-779.	795.
2.50	-263.	-2.23E+03	1.76E+03	-2.21E+03	1.73E+03	-777.	799.
3.75	-178.	-3.11E+03	2.88E+03	-3.08E+03	2.84E+03	-773.	806.
5.00	-58.3	-3.95E+03	4.05E+03	-3.91E+03	4.01E+03	-770.	813.

Table P–381. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	-321.	-1.11E+03	480.	-1.10E+03	471.	-782.	792.
1.75	-298.	-1.68E+03	1.11E+03	-1.66E+03	1.09E+03	-779.	795.
2.50	-263.	-2.23E+03	1.76E+03	-2.21E+03	1.73E+03	-777.	799.
3.75	-178.	-3.11E+03	2.88E+03	-3.08E+03	2.84E+03	-773.	806.
5.00	-58.4	-3.95E+03	4.05E+03	-3.91E+03	4.01E+03	-770.	813.

Table P–382. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	-278.	-1.21E+03	849.	-1.13E+03	462.	-856.	740.
1.75	-273.	-1.67E+03	1.33E+03	-1.50E+03	974.	-699.	712.
2.50	-298.	-2.13E+03	1.70E+03	-1.97E+03	1.45E+03	-668.	700.
3.75	-260.	-3.04E+03	2.84E+03	-2.70E+03	2.23E+03	-650.	664.
5.00	-264.	-3.81E+03	4.16E+03	-3.54E+03	3.17E+03	-656.	688.

Table P–383. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NFA							
θ_a (°)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN/°)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–384. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NSHIPMO							
θ_a (°)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN/°)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN/°)
1.00	13.0	-33.6	67.3	-32.2	65.6	-45.3	52.5
1.75	42.4	-127.	218.	-116.	210.	-90.4	95.5
2.50	96.2	-260.	475.	-187.	462.	-113.	146.
3.75	189.	-500.	1.11E+03	-469.	1.09E+03	-175.	242.
5.00	334.	-944.	2.11E+03	-932.	2.09E+03	-253.	351.

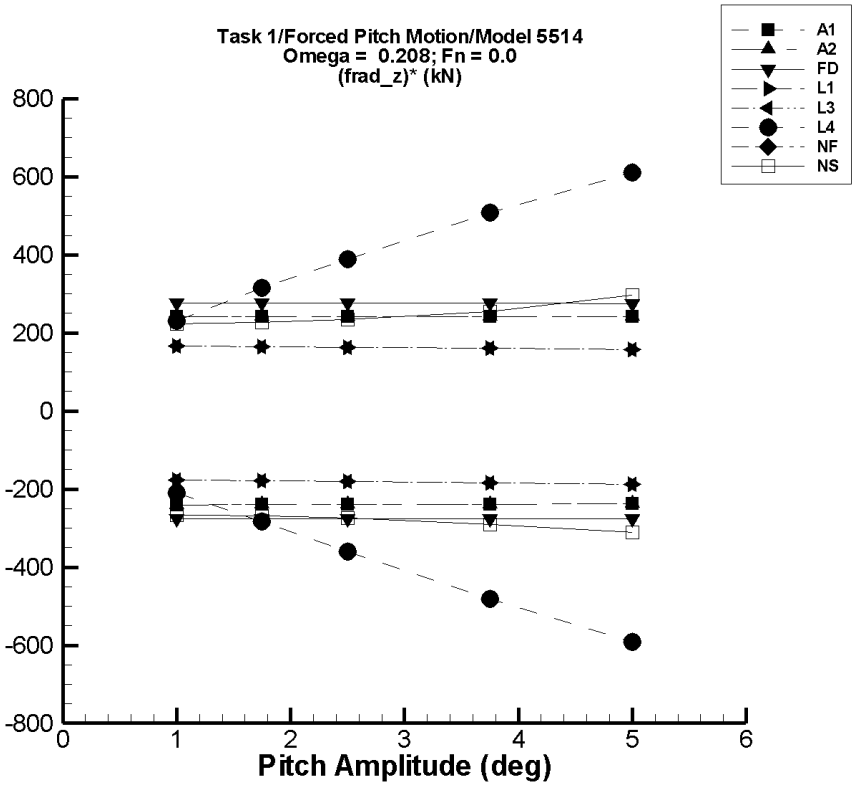

Figure P–49. Minimum and maximum of filtered $\left(F_z^{\text{rad}} - \langle F_z^{\text{rad}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–385. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	0.422	-241.	243.	-240.	242.	-241.	242.
1.75	1.32	-418.	424.	-418.	424.	-239.	241.
2.50	2.72	-596.	608.	-595.	607.	-239.	242.
3.75	6.16	-889.	915.	-888.	914.	-238.	242.
5.00	11.0	-1.18E+03	1.23E+03	-1.18E+03	1.22E+03	-238.	242.

Table P–386. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	0.422	-241.	243.	-240.	242.	-241.	242.
1.75	1.32	-418.	424.	-418.	424.	-239.	241.
2.50	2.72	-596.	608.	-595.	607.	-239.	242.
3.75	6.16	-889.	915.	-888.	914.	-238.	242.
5.00	11.0	-1.18E+03	1.23E+03	-1.18E+03	1.22E+03	-238.	242.

Table P–387. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-4.46E-05	-276.	276.	-276.	276.	-276.	276.
1.75	-1.18E-04	-484.	484.	-483.	483.	-276.	276.
2.50	-1.20E-04	-691.	691.	-690.	690.	-276.	276.
3.75	-4.29E-04	-1.04E+03	1.04E+03	-1.03E+03	1.03E+03	-276.	276.
5.00	-8.81E-04	-1.38E+03	1.38E+03	-1.38E+03	1.38E+03	-276.	276.

Table P–388. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	2.30	-172.	173.	-172.	173.	-174.	170.
1.75	7.10	-301.	302.	-301.	302.	-176.	169.
2.50	14.5	-430.	432.	-430.	431.	-178.	167.
3.75	32.8	-646.	648.	-645.	647.	-181.	164.
5.00	58.3	-861.	863.	-860.	863.	-184.	161.

Table P–389. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	2.30	-172.	173.	-172.	173.	-174.	170.
1.75	7.10	-301.	302.	-301.	302.	-176.	169.
2.50	14.5	-430.	432.	-430.	431.	-178.	167.
3.75	32.8	-646.	648.	-645.	647.	-181.	164.
5.00	58.3	-861.	863.	-860.	863.	-184.	161.

Table P–390. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-8.59	-219.	233.	-218.	223.	-210.	232.
1.75	-31.2	-533.	526.	-533.	517.	-287.	313.
2.50	-63.7	-988.	908.	-978.	896.	-366.	384.
3.75	-137.	-2.00E+03	1.75E+03	-1.98E+03	1.73E+03	-490.	499.
5.00	-233.	-3.35E+03	2.80E+03	-3.26E+03	2.76E+03	-605.	598.

Table P–391. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NFA							
θ_a (°)	$\langle F_z^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_z^{rad} Min. (kN)	Unfiltered F_z^{rad} Max. (kN)	Filtered F_z^{rad} Min. (kN)	Filtered F_z^{rad} Max. (kN)	Filtered $\left(F_z^{\text{rad}}\right)^*$ Min. (kN/°)	Filtered $\left(F_z^{\text{rad}}\right)^*$ Max. (kN/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–392. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NSHIPMO							
θ_a (°)	$\langle F_z^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_z^{rad} Min. (kN)	Unfiltered F_z^{rad} Max. (kN)	Filtered F_z^{rad} Min. (kN)	Filtered F_z^{rad} Max. (kN)	Filtered $\left(F_z^{\text{rad}}\right)^*$ Min. (kN/°)	Filtered $\left(F_z^{\text{rad}}\right)^*$ Max. (kN/°)
1.00	-17.9	-288.	209.	-284.	206.	-266.	224.
1.75	-71.0	-549.	335.	-542.	326.	-269.	227.
2.50	-139.	-837.	507.	-826.	448.	-275.	235.
3.75	-305.	-1.41E+03	846.	-1.39E+03	649.	-290.	254.
5.00	-491.	-2.06E+03	1.42E+03	-2.05E+03	988.	-311.	296.

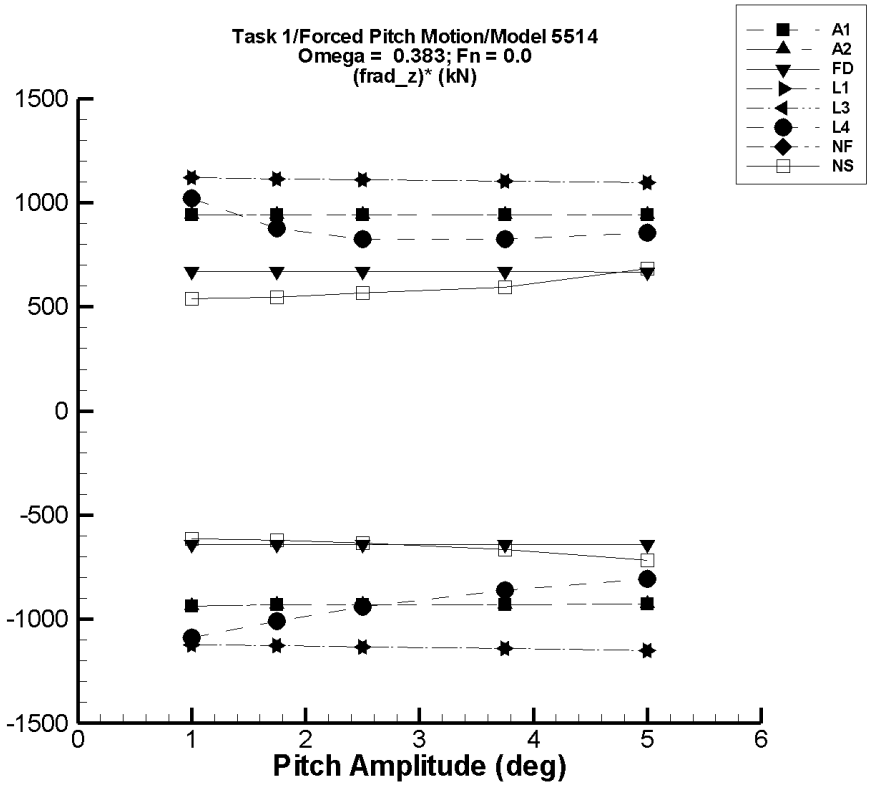

Figure P–50. Minimum and maximum of filtered $\left(F_z^{\text{rad}} - \langle F_z^{\text{rad}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–393. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	1.28	-938.	949.	-935.	945.	-936.	944.
1.75	4.66	-1.63E+03	1.66E+03	-1.63E+03	1.65E+03	-932.	940.
2.50	10.2	-2.32E+03	2.37E+03	-2.32E+03	2.36E+03	-931.	941.
3.75	24.1	-3.47E+03	3.57E+03	-3.46E+03	3.56E+03	-929.	942.
5.00	43.9	-4.61E+03	4.78E+03	-4.60E+03	4.76E+03	-928.	943.

Table P–394. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	1.28	-938.	949.	-935.	945.	-936.	944.
1.75	4.66	-1.63E+03	1.66E+03	-1.63E+03	1.65E+03	-932.	940.
2.50	10.2	-2.32E+03	2.37E+03	-2.32E+03	2.36E+03	-931.	941.
3.75	24.1	-3.47E+03	3.57E+03	-3.46E+03	3.56E+03	-929.	942.
5.00	43.9	-4.61E+03	4.78E+03	-4.60E+03	4.76E+03	-928.	943.

Table P–395. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	1.32E-03	-656.	656.	-656.	654.	-656.	654.
1.75	7.28E-03	-1.15E+03	1.15E+03	-1.15E+03	1.14E+03	-656.	654.
2.50	2.13E-02	-1.64E+03	1.64E+03	-1.64E+03	1.63E+03	-656.	654.
3.75	7.20E-02	-2.46E+03	2.46E+03	-2.46E+03	2.45E+03	-655.	653.
5.00	0.171	-3.28E+03	3.28E+03	-3.27E+03	3.26E+03	-655.	653.

Table P–396. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.65	-1.12E+03	1.13E+03	-1.12E+03	1.13E+03	-1.13E+03	1.12E+03
1.75	29.2	-1.95E+03	1.98E+03	-1.95E+03	1.97E+03	-1.13E+03	1.11E+03
2.50	59.3	-2.78E+03	2.83E+03	-2.78E+03	2.83E+03	-1.14E+03	1.11E+03
3.75	133.	-4.16E+03	4.26E+03	-4.16E+03	4.26E+03	-1.14E+03	1.10E+03
5.00	236.	-5.54E+03	5.71E+03	-5.53E+03	5.71E+03	-1.15E+03	1.09E+03

Table P–397. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	9.65	-1.12E+03	1.13E+03	-1.12E+03	1.13E+03	-1.13E+03	1.12E+03
1.75	29.2	-1.95E+03	1.98E+03	-1.95E+03	1.97E+03	-1.13E+03	1.11E+03
2.50	59.3	-2.78E+03	2.83E+03	-2.78E+03	2.83E+03	-1.14E+03	1.11E+03
3.75	133.	-4.16E+03	4.26E+03	-4.16E+03	4.26E+03	-1.14E+03	1.10E+03
5.00	236.	-5.54E+03	5.71E+03	-5.53E+03	5.71E+03	-1.15E+03	1.09E+03

Table P–398. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-39.0	-1.14E+03	1.00E+03	-1.13E+03	979.	-1.09E+03	1.02E+03
1.75	-139.	-1.92E+03	1.54E+03	-1.91E+03	1.39E+03	-1.01E+03	875.
2.50	-276.	-2.65E+03	1.95E+03	-2.63E+03	1.79E+03	-940.	827.
3.75	-577.	-3.81E+03	2.73E+03	-3.79E+03	2.53E+03	-857.	827.
5.00	-967.	-5.00E+03	3.97E+03	-4.98E+03	3.33E+03	-802.	860.

Table P–399. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NFA							
θ_a (°)	$\langle F_z^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_z^{rad} Min. (kN)	Unfiltered F_z^{rad} Max. (kN)	Filtered F_z^{rad} Min. (kN)	Filtered F_z^{rad} Max. (kN)	Filtered $\left(F_z^{\text{rad}}\right)^*$ Min. (kN/°)	Filtered $\left(F_z^{\text{rad}}\right)^*$ Max. (kN/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–400. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NSHIPMO							
θ_a (°)	$\langle F_z^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_z^{rad} Min. (kN)	Unfiltered F_z^{rad} Max. (kN)	Filtered F_z^{rad} Min. (kN)	Filtered F_z^{rad} Max. (kN)	Filtered $\left(F_z^{\text{rad}}\right)^*$ Min. (kN/°)	Filtered $\left(F_z^{\text{rad}}\right)^*$ Max. (kN/°)
1.00	-35.5	-659.	510.	-651.	503.	-615.	538.
1.75	-146.	-1.25E+03	827.	-1.23E+03	807.	-621.	545.
2.50	-275.	-1.89E+03	1.27E+03	-1.86E+03	1.14E+03	-635.	568.
3.75	-617.	-3.15E+03	2.10E+03	-3.12E+03	1.61E+03	-667.	595.
5.00	-974.	-4.61E+03	3.52E+03	-4.56E+03	2.44E+03	-718.	683.

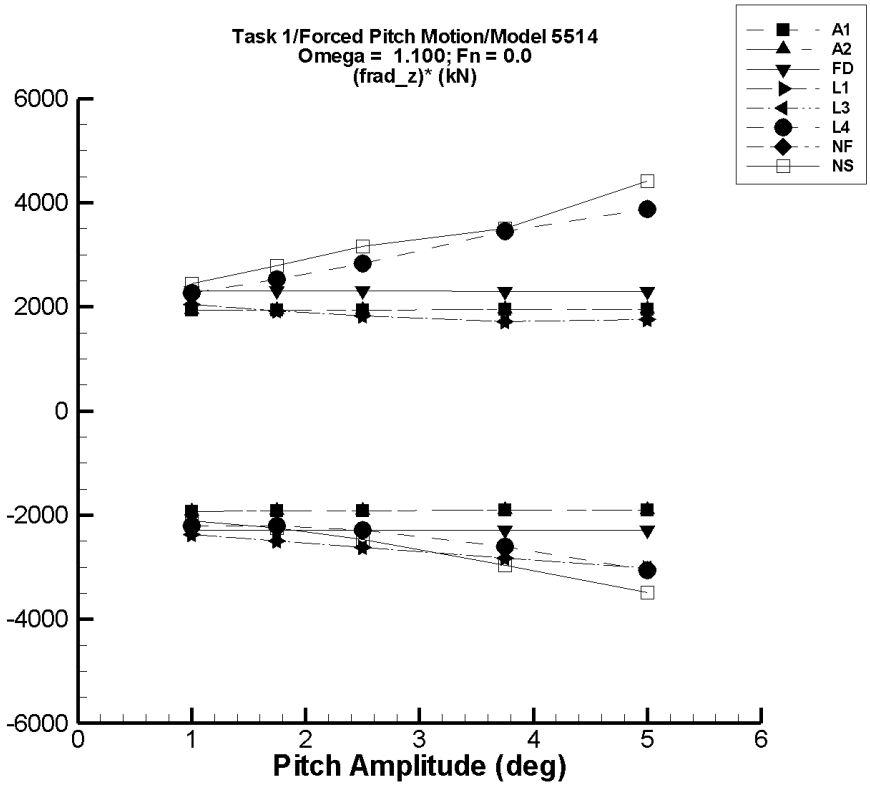

Figure P–51. Minimum and maximum of filtered $\left(F_z^{\text{rad}} - \langle F_z^{\text{rad}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–401. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle F_z^{\text{rad}} \rangle$	**Unfiltered** F_z^{rad}		**Filtered** F_z^{rad}		**Filtered** $\left(F_z^{\text{rad}}\right)^*$	
θ_a	**Mean**	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**
(°)	**(kN)**	**(kN)**	**(kN)**	**(kN)**	**(kN)**	**(kN/°)**	**(kN/°)**
1.00	-15.8	-2.00E+03	1.99E+03	-1.94E+03	1.92E+03	-1.93E+03	1.94E+03
1.75	-23.2	-3.48E+03	3.47E+03	-3.38E+03	3.36E+03	-1.92E+03	1.94E+03
2.50	-26.7	-4.96E+03	4.98E+03	-4.81E+03	4.82E+03	-1.91E+03	1.94E+03
3.75	-24.1	-7.38E+03	7.51E+03	-7.17E+03	7.27E+03	-1.90E+03	1.95E+03
5.00	-10.7	-9.79E+03	1.01E+04	-9.50E+03	9.75E+03	-1.90E+03	1.95E+03

Table P–402. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle F_z^{\text{rad}} \rangle$	**Unfiltered** F_z^{rad}		**Filtered** F_z^{rad}		**Filtered** $\left(F_z^{\text{rad}}\right)^*$	
θ_a	**Mean**	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**
(°)	**(kN)**	**(kN)**	**(kN)**	**(kN)**	**(kN)**	**(kN/°)**	**(kN/°)**
1.00	-15.8	-2.00E+03	1.99E+03	-1.94E+03	1.92E+03	-1.93E+03	1.94E+03
1.75	-23.2	-3.48E+03	3.47E+03	-3.38E+03	3.36E+03	-1.92E+03	1.94E+03
2.50	-26.7	-4.96E+03	4.98E+03	-4.81E+03	4.82E+03	-1.91E+03	1.94E+03
3.75	-24.1	-7.38E+03	7.51E+03	-7.17E+03	7.27E+03	-1.90E+03	1.95E+03
5.00	-10.7	-9.79E+03	1.01E+04	-9.50E+03	9.75E+03	-1.90E+03	1.95E+03

Table P–403. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	4.56E-03	-2.37E+03	2.37E+03	-2.29E+03	2.30E+03	-2.29E+03	2.30E+03
1.75	2.42E-02	-4.14E+03	4.14E+03	-4.01E+03	4.03E+03	-2.29E+03	2.30E+03
2.50	7.11E-02	-5.91E+03	5.92E+03	-5.73E+03	5.75E+03	-2.29E+03	2.30E+03
3.75	0.240	-8.86E+03	8.87E+03	-8.59E+03	8.62E+03	-2.29E+03	2.30E+03
5.00	0.569	-1.18E+04	1.18E+04	-1.14E+04	1.15E+04	-2.29E+03	2.30E+03

Table P–404. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-18.5	-2.42E+03	2.05E+03	-2.38E+03	2.04E+03	-2.37E+03	2.05E+03
1.75	-56.8	-4.47E+03	3.37E+03	-4.40E+03	3.35E+03	-2.48E+03	1.94E+03
2.50	-116.	-6.72E+03	4.51E+03	-6.62E+03	4.49E+03	-2.60E+03	1.84E+03
3.75	-261.	-1.10E+04	6.32E+03	-1.08E+04	6.25E+03	-2.80E+03	1.74E+03
5.00	-465.	-1.58E+04	8.39E+03	-1.55E+04	8.45E+03	-3.00E+03	1.78E+03

Table P–405. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle F_z^{\text{rad}} \rangle$	**Unfiltered** F_z^{rad}		**Filtered** F_z^{rad}		**Filtered** $\left(F_z^{\text{rad}}\right)^*$	
θ_a	**Mean**	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**
(°)	**(kN)**	**(kN)**	**(kN)**	**(kN)**	**(kN)**	**(kN/°)**	**(kN/°)**
1.00	-18.5	-2.42E+03	2.05E+03	-2.38E+03	2.04E+03	-2.37E+03	2.05E+03
1.75	-56.8	-4.47E+03	3.37E+03	-4.40E+03	3.35E+03	-2.48E+03	1.94E+03
2.50	-116.	-6.72E+03	4.51E+03	-6.62E+03	4.49E+03	-2.60E+03	1.84E+03
3.75	-261.	-1.10E+04	6.32E+03	-1.08E+04	6.25E+03	-2.80E+03	1.74E+03
5.00	-465.	-1.58E+04	8.39E+03	-1.55E+04	8.45E+03	-3.00E+03	1.78E+03

Table P–406. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle F_z^{\text{rad}} \rangle$	**Unfiltered** F_z^{rad}		**Filtered** F_z^{rad}		**Filtered** $\left(F_z^{\text{rad}}\right)^*$	
θ_a	**Mean**	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**
(°)	**(kN)**	**(kN)**	**(kN)**	**(kN)**	**(kN)**	**(kN/°)**	**(kN/°)**
1.00	-39.2	-2.28E+03	2.37E+03	-2.20E+03	2.26E+03	-2.16E+03	2.30E+03
1.75	-151.	-4.01E+03	5.18E+03	-3.90E+03	4.39E+03	-2.14E+03	2.59E+03
2.50	-250.	-6.02E+03	9.18E+03	-5.75E+03	7.05E+03	-2.20E+03	2.92E+03
3.75	-362.	-1.03E+04	1.76E+04	-9.73E+03	1.30E+04	-2.50E+03	3.57E+03
5.00	-829.	-1.60E+04	2.69E+04	-1.54E+04	1.93E+04	-2.92E+03	4.02E+03

Table P–407. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NFA							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–408. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NSHIPMO							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-120.	-2.25E+03	2.38E+03	-2.23E+03	2.32E+03	-2.11E+03	2.44E+03
1.75	-551.	-4.56E+03	4.50E+03	-4.48E+03	4.33E+03	-2.25E+03	2.79E+03
2.50	-998.	-7.29E+03	8.11E+03	-7.16E+03	6.91E+03	-2.47E+03	3.16E+03
3.75	-2.36E+03	-1.37E+04	1.47E+04	-1.35E+04	1.08E+04	-2.97E+03	3.51E+03
5.00	-3.66E+03	-2.13E+04	2.60E+04	-2.11E+04	1.84E+04	-3.49E+03	4.42E+03

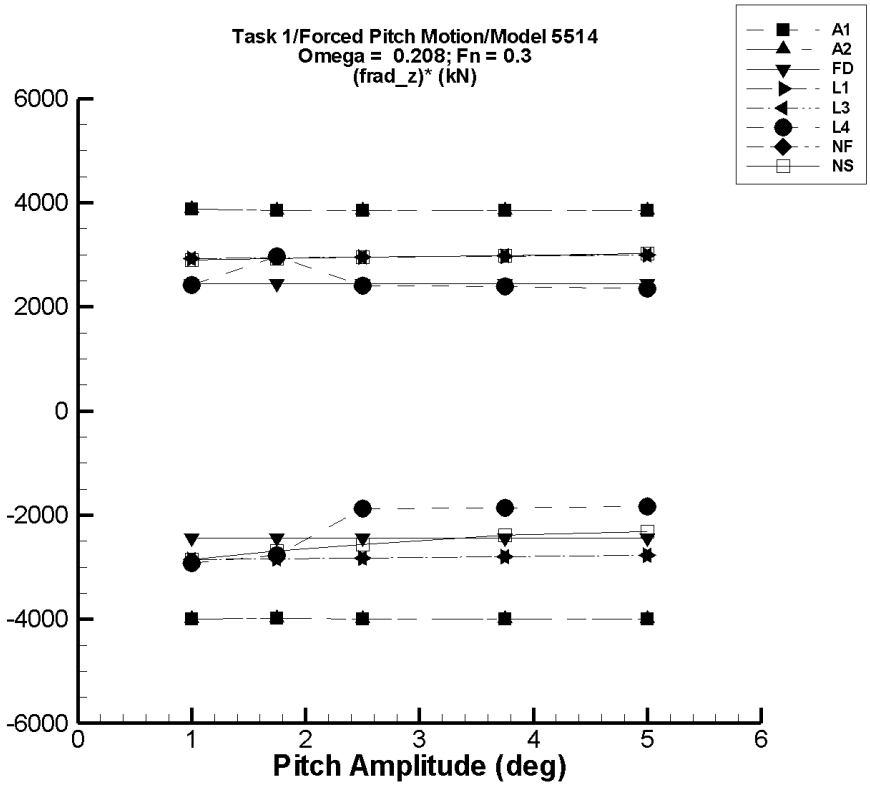

Figure P–52. Minimum and maximum of filtered $\left(F_z^{\text{rad}} - \langle F_z^{\text{rad}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–409. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-7.83	-4.01E+03	3.87E+03	-4.01E+03	3.86E+03	-4.00E+03	3.87E+03
1.75	-9.69	-6.99E+03	6.74E+03	-6.99E+03	6.74E+03	-3.99E+03	3.85E+03
2.50	-8.15	-1.00E+04	9.64E+03	-9.99E+03	9.63E+03	-3.99E+03	3.85E+03
3.75	2.07	-1.50E+04	1.45E+04	-1.50E+04	1.44E+04	-3.99E+03	3.85E+03
5.00	22.0	-2.00E+04	1.93E+04	-2.00E+04	1.93E+04	-4.00E+03	3.85E+03

Table P–410. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-7.83	-4.01E+03	3.87E+03	-4.01E+03	3.86E+03	-4.00E+03	3.87E+03
1.75	-9.69	-6.99E+03	6.74E+03	-6.99E+03	6.74E+03	-3.99E+03	3.85E+03
2.50	-8.15	-1.00E+04	9.64E+03	-9.99E+03	9.63E+03	-3.99E+03	3.85E+03
3.75	2.07	-1.50E+04	1.45E+04	-1.50E+04	1.44E+04	-3.99E+03	3.85E+03
5.00	22.0	-2.00E+04	1.93E+04	-2.00E+04	1.93E+04	-4.00E+03	3.85E+03

Table P–411. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle \boldsymbol{F_z^{\text{rad}}} \rangle$	**Unfiltered** $\boldsymbol{F_z^{\text{rad}}}$		**Filtered** $\boldsymbol{F_z^{\text{rad}}}$		**Filtered** $\left(\boldsymbol{F_z^{\text{rad}}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	-6.49E-03	-2.45E+03	2.45E+03	-2.45E+03	2.45E+03	-2.45E+03	2.45E+03
1.75	-3.39E-02	-4.29E+03	4.29E+03	-4.28E+03	4.28E+03	-2.45E+03	2.45E+03
2.50	-9.86E-02	-6.12E+03	6.12E+03	-6.12E+03	6.12E+03	-2.45E+03	2.45E+03
3.75	-0.334	-9.18E+03	9.18E+03	-9.17E+03	9.17E+03	-2.45E+03	2.45E+03
5.00	-0.792	-1.22E+04	1.22E+04	-1.22E+04	1.22E+04	-2.44E+03	2.44E+03

Table P–412. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle \boldsymbol{F_z^{\text{rad}}} \rangle$	**Unfiltered** $\boldsymbol{F_z^{\text{rad}}}$		**Filtered** $\boldsymbol{F_z^{\text{rad}}}$		**Filtered** $\left(\boldsymbol{F_z^{\text{rad}}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	-4.76E+03	-7.63E+03	-1.85E+03	-7.63E+03	-1.85E+03	-2.87E+03	2.91E+03
1.75	-4.79E+03	-9.78E+03	331.	-9.78E+03	329.	-2.85E+03	2.92E+03
2.50	-4.83E+03	-1.19E+04	2.52E+03	-1.19E+04	2.52E+03	-2.84E+03	2.94E+03
3.75	-4.93E+03	-1.55E+04	6.19E+03	-1.55E+04	6.18E+03	-2.81E+03	2.96E+03
5.00	-5.08E+03	-1.90E+04	9.88E+03	-1.90E+04	9.87E+03	-2.78E+03	2.99E+03

Table P–413. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-4.76E+03	-7.63E+03	-1.85E+03	-7.63E+03	-1.85E+03	-2.87E+03	2.91E+03
1.75	-4.79E+03	-9.78E+03	332.	-9.78E+03	330.	-2.85E+03	2.92E+03
2.50	-4.83E+03	-1.19E+04	2.52E+03	-1.19E+04	2.52E+03	-2.84E+03	2.94E+03
3.75	-4.93E+03	-1.55E+04	6.19E+03	-1.55E+04	6.18E+03	-2.81E+03	2.96E+03
5.00	-5.08E+03	-1.90E+04	9.88E+03	-1.90E+04	9.87E+03	-2.78E+03	2.99E+03

Table P–414. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-4.85E+03	-7.88E+03	-2.24E+03	-7.79E+03	-2.45E+03	-2.94E+03	2.41E+03
1.75	-5.06E+03	-1.00E+04	423.	-9.93E+03	110.	-2.78E+03	2.96E+03
2.50	-5.22E+03	-1.02E+04	819.	-9.95E+03	763.	-1.89E+03	2.39E+03
3.75	-5.59E+03	-1.29E+04	3.55E+03	-1.26E+04	3.34E+03	-1.88E+03	2.38E+03
5.00	-5.89E+03	-1.54E+04	6.06E+03	-1.51E+04	5.75E+03	-1.85E+03	2.33E+03

Table P–415. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NFA							
θ_a (°)	$\langle F_z^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_z^{rad} Min. (kN)	Unfiltered F_z^{rad} Max. (kN)	Filtered F_z^{rad} Min. (kN)	Filtered F_z^{rad} Max. (kN)	Filtered $\left(F_z^{\text{rad}}\right)^*$ Min. (kN/°)	Filtered $\left(F_z^{\text{rad}}\right)^*$ Max. (kN/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–416. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NSHIPMO							
θ_a (°)	$\langle F_z^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_z^{rad} Min. (kN)	Unfiltered F_z^{rad} Max. (kN)	Filtered F_z^{rad} Min. (kN)	Filtered F_z^{rad} Max. (kN)	Filtered $\left(F_z^{\text{rad}}\right)^*$ Min. (kN/°)	Filtered $\left(F_z^{\text{rad}}\right)^*$ Max. (kN/°)
1.00	-42.3	-2.92E+03	2.90E+03	-2.90E+03	2.86E+03	-2.86E+03	2.91E+03
1.75	137.	-4.62E+03	5.37E+03	-4.56E+03	5.27E+03	-2.69E+03	2.93E+03
2.50	187.	-6.47E+03	7.65E+03	-6.24E+03	7.58E+03	-2.57E+03	2.96E+03
3.75	322.	-8.84E+03	1.16E+04	-8.61E+03	1.15E+04	-2.38E+03	2.98E+03
5.00	525.	-1.13E+04	1.57E+04	-1.11E+04	1.56E+04	-2.32E+03	3.02E+03

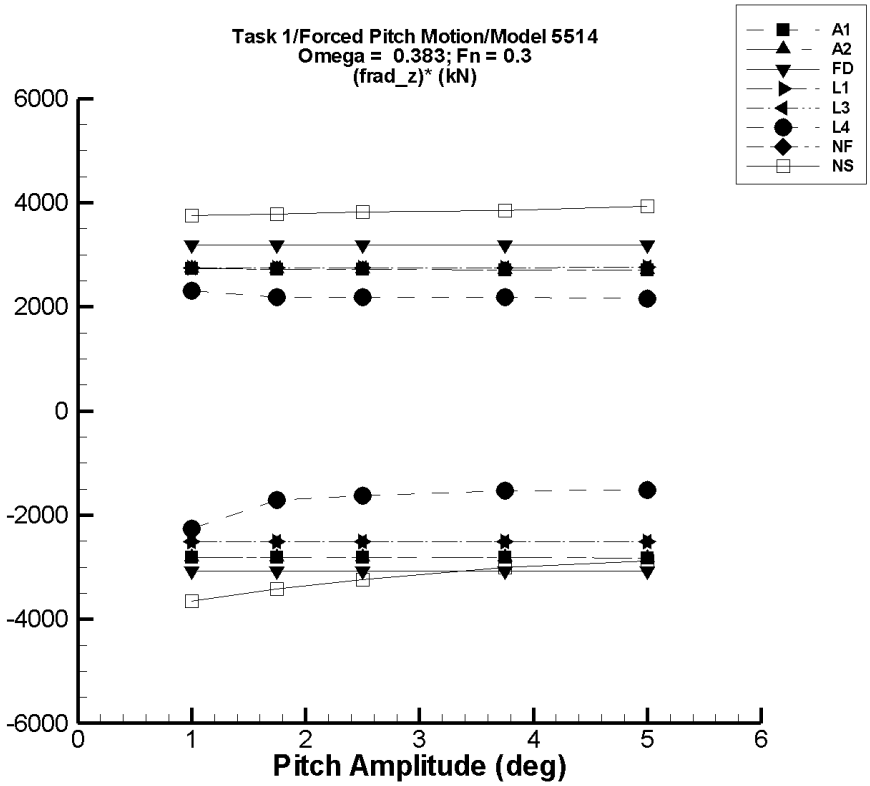

Figure P–53. Minimum and maximum of filtered $\left(F_z^{\text{rad}} - \langle F_z^{\text{rad}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–417. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-28.5	-2.86E+03	2.72E+03	-2.85E+03	2.70E+03	-2.82E+03	2.73E+03
1.75	-47.6	-4.99E+03	4.73E+03	-4.97E+03	4.70E+03	-2.81E+03	2.71E+03
2.50	-65.0	-7.14E+03	6.76E+03	-7.11E+03	6.71E+03	-2.82E+03	2.71E+03
3.75	-89.9	-1.07E+04	1.01E+04	-1.07E+04	1.01E+04	-2.82E+03	2.71E+03
5.00	-110.	-1.43E+04	1.35E+04	-1.42E+04	1.34E+04	-2.83E+03	2.71E+03

Table P–418. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-28.5	-2.86E+03	2.72E+03	-2.85E+03	2.70E+03	-2.82E+03	2.73E+03
1.75	-47.6	-4.99E+03	4.73E+03	-4.97E+03	4.70E+03	-2.81E+03	2.71E+03
2.50	-65.0	-7.14E+03	6.76E+03	-7.11E+03	6.71E+03	-2.82E+03	2.71E+03
3.75	-89.9	-1.07E+04	1.01E+04	-1.07E+04	1.01E+04	-2.82E+03	2.71E+03
5.00	-110.	-1.43E+04	1.35E+04	-1.42E+04	1.34E+04	-2.83E+03	2.71E+03

Table P–419. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	8.95E-04	-3.14E+03	3.14E+03	-3.13E+03	3.13E+03	-3.13E+03	3.13E+03
1.75	5.80E-03	-5.49E+03	5.49E+03	-5.47E+03	5.47E+03	-3.13E+03	3.13E+03
2.50	1.56E-02	-7.84E+03	7.84E+03	-7.82E+03	7.81E+03	-3.13E+03	3.13E+03
3.75	5.14E-02	-1.18E+04	1.18E+04	-1.17E+04	1.17E+04	-3.13E+03	3.13E+03
5.00	0.121	-1.57E+04	1.57E+04	-1.56E+04	1.56E+04	-3.13E+03	3.12E+03

Table P–420. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-4.76E+03	-7.39E+03	-2.13E+03	-7.39E+03	-2.13E+03	-2.63E+03	2.63E+03
1.75	-4.79E+03	-9.39E+03	-176.	-9.38E+03	-182.	-2.63E+03	2.63E+03
2.50	-4.83E+03	-1.14E+04	1.76E+03	-1.14E+04	1.75E+03	-2.62E+03	2.63E+03
3.75	-4.94E+03	-1.48E+04	4.97E+03	-1.48E+04	4.96E+03	-2.63E+03	2.64E+03
5.00	-5.10E+03	-1.83E+04	8.16E+03	-1.82E+04	8.14E+03	-2.63E+03	2.65E+03

Table P–421. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle \boldsymbol{F_z^{\text{rad}}} \rangle$	**Unfiltered** $\boldsymbol{F_z^{\text{rad}}}$		**Filtered** $\boldsymbol{F_z^{\text{rad}}}$		**Filtered** $\left(\boldsymbol{F_z^{\text{rad}}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	-4.76E+03	-7.39E+03	-2.13E+03	-7.39E+03	-2.13E+03	-2.63E+03	2.63E+03
1.75	-4.79E+03	-9.39E+03	-176.	-9.38E+03	-182.	-2.63E+03	2.63E+03
2.50	-4.83E+03	-1.14E+04	1.76E+03	-1.14E+04	1.75E+03	-2.62E+03	2.63E+03
3.75	-4.94E+03	-1.48E+04	4.97E+03	-1.48E+04	4.96E+03	-2.63E+03	2.64E+03
5.00	-5.10E+03	-1.83E+04	8.16E+03	-1.82E+04	8.14E+03	-2.63E+03	2.65E+03

Table P–422. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle \boldsymbol{F_z^{\text{rad}}} \rangle$	**Unfiltered** $\boldsymbol{F_z^{\text{rad}}}$		**Filtered** $\boldsymbol{F_z^{\text{rad}}}$		**Filtered** $\left(\boldsymbol{F_z^{\text{rad}}}\right)^*$	
$\boldsymbol{\theta_a}$ **(°)**	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN/°)**	**Max. (kN/°)**
1.00	-4.79E+03	-7.28E+03	-2.38E+03	-7.12E+03	-2.57E+03	-2.33E+03	2.23E+03
1.75	-4.97E+03	-8.31E+03	-1.11E+03	-8.10E+03	-1.28E+03	-1.79E+03	2.11E+03
2.50	-5.02E+03	-9.60E+03	469.	-9.26E+03	277.	-1.69E+03	2.12E+03
3.75	-5.07E+03	-1.13E+04	3.01E+03	-1.11E+04	2.90E+03	-1.60E+03	2.13E+03
5.00	-5.06E+03	-1.32E+04	5.63E+03	-1.29E+04	5.46E+03	-1.58E+03	2.10E+03

Table P–423. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NFA							
θ_a (°)	$\langle F_z^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_z^{rad} Min. (kN)	Unfiltered F_z^{rad} Max. (kN)	Filtered F_z^{rad} Min. (kN)	Filtered F_z^{rad} Max. (kN)	Filtered $\left(F_z^{\text{rad}}\right)^*$ Min. (kN/°)	Filtered $\left(F_z^{\text{rad}}\right)^*$ Max. (kN/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–424. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NSHIPMO							
θ_a (°)	$\langle F_z^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_z^{rad} Min. (kN)	Unfiltered F_z^{rad} Max. (kN)	Filtered F_z^{rad} Min. (kN)	Filtered F_z^{rad} Max. (kN)	Filtered $\left(F_z^{\text{rad}}\right)^*$ Min. (kN/°)	Filtered $\left(F_z^{\text{rad}}\right)^*$ Max. (kN/°)
1.00	-92.0	-3.77E+03	3.69E+03	-3.74E+03	3.66E+03	-3.65E+03	3.75E+03
1.75	59.9	-5.98E+03	6.74E+03	-5.92E+03	6.67E+03	-3.42E+03	3.78E+03
2.50	3.36	-8.37E+03	9.65E+03	-8.10E+03	9.55E+03	-3.24E+03	3.82E+03
3.75	-49.6	-1.16E+04	1.45E+04	-1.13E+04	1.44E+04	-3.01E+03	3.86E+03
5.00	-51.9	-1.45E+04	1.97E+04	-1.45E+04	1.96E+04	-2.88E+03	3.93E+03

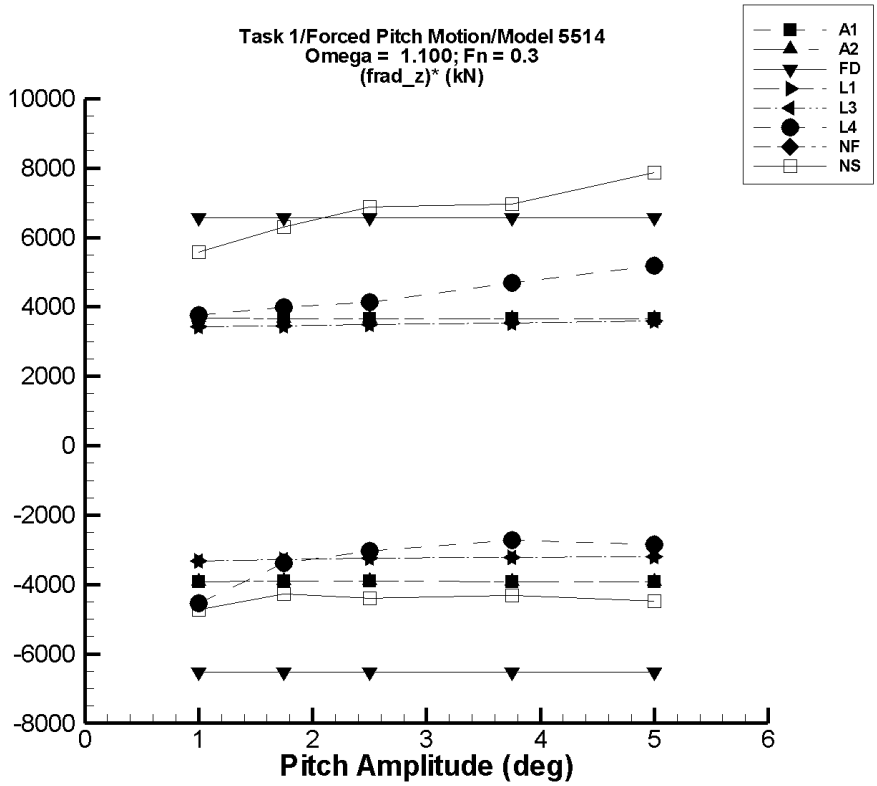

Figure P–54. Minimum and maximum of filtered $\left(F_z^{\text{rad}} - \langle F_z^{\text{rad}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–425. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	2.75	-4.05E+03	3.78E+03	-3.91E+03	3.68E+03	-3.92E+03	3.68E+03
1.75	10.3	-7.07E+03	6.60E+03	-6.82E+03	6.42E+03	-3.90E+03	3.66E+03
2.50	22.5	-1.01E+04	9.43E+03	-9.74E+03	9.17E+03	-3.91E+03	3.66E+03
3.75	53.4	-1.52E+04	1.41E+04	-1.46E+04	1.38E+04	-3.91E+03	3.66E+03
5.00	97.5	-2.02E+04	1.89E+04	-1.95E+04	1.84E+04	-3.92E+03	3.65E+03

Table P–426. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	2.75	-4.05E+03	3.78E+03	-3.91E+03	3.68E+03	-3.92E+03	3.68E+03
1.75	10.3	-7.07E+03	6.60E+03	-6.82E+03	6.42E+03	-3.90E+03	3.66E+03
2.50	22.5	-1.01E+04	9.43E+03	-9.74E+03	9.17E+03	-3.91E+03	3.66E+03
3.75	53.4	-1.52E+04	1.41E+04	-1.46E+04	1.38E+04	-3.91E+03	3.66E+03
5.00	97.5	-2.02E+04	1.89E+04	-1.95E+04	1.84E+04	-3.92E+03	3.65E+03

Table P–427. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	4.82E-03	-6.48E+03	6.48E+03	-6.52E+03	6.56E+03	-6.52E+03	6.56E+03
1.75	2.37E-02	-1.13E+04	1.13E+04	-1.14E+04	1.15E+04	-6.52E+03	6.56E+03
2.50	6.66E-02	-1.62E+04	1.62E+04	-1.63E+04	1.64E+04	-6.52E+03	6.56E+03
3.75	0.216	-2.43E+04	2.43E+04	-2.44E+04	2.46E+04	-6.52E+03	6.56E+03
5.00	0.511	-3.24E+04	3.24E+04	-3.26E+04	3.28E+04	-6.52E+03	6.56E+03

Table P–428. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-4.76E+03	-8.07E+03	-1.36E+03	-8.08E+03	-1.33E+03	-3.32E+03	3.43E+03
1.75	-4.81E+03	-1.06E+04	1.21E+03	-1.05E+04	1.26E+03	-3.27E+03	3.47E+03
2.50	-4.88E+03	-1.30E+04	3.81E+03	-1.29E+04	3.86E+03	-3.23E+03	3.50E+03
3.75	-5.06E+03	-1.72E+04	8.24E+03	-1.71E+04	8.26E+03	-3.20E+03	3.55E+03
5.00	-5.32E+03	-2.14E+04	1.28E+04	-2.13E+04	1.27E+04	-3.19E+03	3.61E+03

Table P–429. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-4.76E+03	-8.07E+03	-1.36E+03	-8.08E+03	-1.33E+03	-3.32E+03	3.43E+03
1.75	-4.81E+03	-1.06E+04	1.21E+03	-1.05E+04	1.26E+03	-3.27E+03	3.47E+03
2.50	-4.88E+03	-1.30E+04	3.81E+03	-1.29E+04	3.86E+03	-3.23E+03	3.50E+03
3.75	-5.06E+03	-1.72E+04	8.24E+03	-1.71E+04	8.26E+03	-3.20E+03	3.55E+03
5.00	-5.32E+03	-2.14E+04	1.28E+04	-2.13E+04	1.27E+04	-3.19E+03	3.61E+03

Table P–430. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-4.96E+03	-9.84E+03	-930.	-9.48E+03	-1.19E+03	-4.52E+03	3.77E+03
1.75	-5.31E+03	-1.18E+04	2.32E+03	-1.11E+04	1.75E+03	-3.33E+03	4.03E+03
2.50	-5.53E+03	-1.35E+04	6.75E+03	-1.29E+04	4.98E+03	-2.95E+03	4.20E+03
3.75	-6.03E+03	-1.64E+04	1.68E+04	-1.58E+04	1.19E+04	-2.61E+03	4.79E+03
5.00	-6.76E+03	-2.15E+04	2.63E+04	-2.04E+04	1.98E+04	-2.72E+03	5.32E+03

Table P–431. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NFA							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–432. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NSHIPMO							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN/°)	Max. (kN/°)
1.00	-353.	-5.16E+03	5.34E+03	-5.08E+03	5.23E+03	-4.73E+03	5.59E+03
1.75	-192.	-7.81E+03	1.13E+04	-7.68E+03	1.08E+04	-4.28E+03	6.30E+03
2.50	-726.	-1.18E+04	1.67E+04	-1.17E+04	1.65E+04	-4.40E+03	6.87E+03
3.75	-1.44E+03	-1.78E+04	2.61E+04	-1.76E+04	2.47E+04	-4.31E+03	6.97E+03
5.00	-2.28E+03	-2.49E+04	4.21E+04	-2.47E+04	3.70E+04	-4.49E+03	7.86E+03

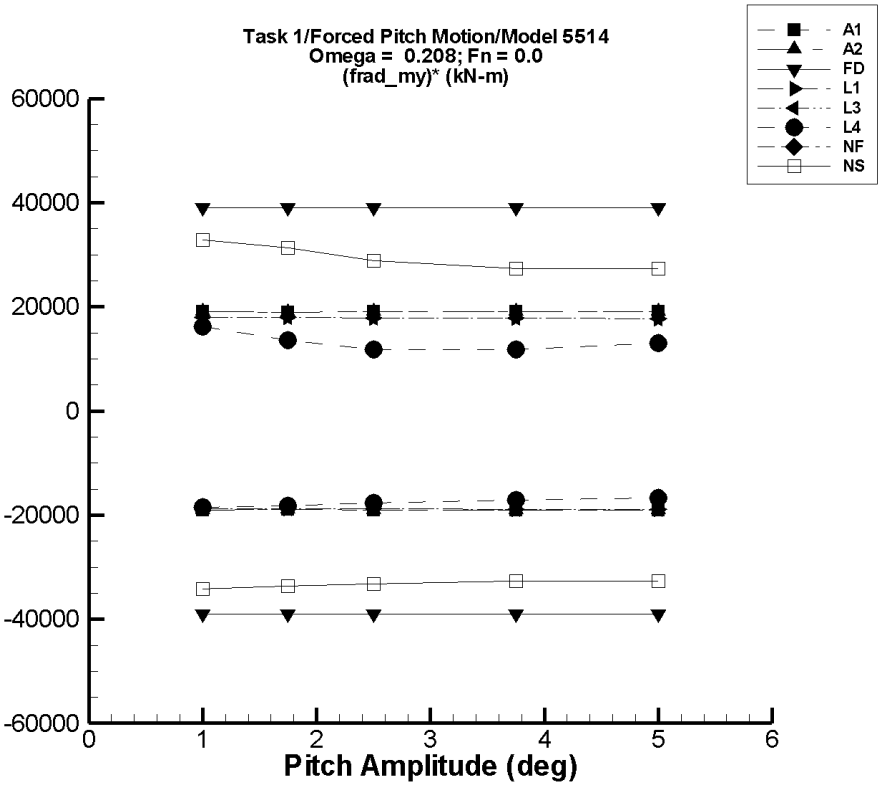

Figure P–55. Minimum and maximum of filtered $\left(M_y^{\text{rad}} - \langle M_y^{\text{rad}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–433. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle M_y^{\text{rad}} \rangle$	**Unfiltered** M_y^{rad}		**Filtered** M_y^{rad}		**Filtered** $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	-10.8	-1.96E+04	1.97E+04	-1.91E+04	1.91E+04	-1.90E+04	1.91E+04
1.75	-18.8	-3.42E+04	3.44E+04	-3.32E+04	3.33E+04	-1.90E+04	1.90E+04
2.50	-26.9	-4.89E+04	4.91E+04	-4.75E+04	4.76E+04	-1.90E+04	1.90E+04
3.75	-40.3	-7.34E+04	7.37E+04	-7.12E+04	7.13E+04	-1.90E+04	1.90E+04
5.00	-53.8	-9.80E+04	9.83E+04	-9.51E+04	9.52E+04	-1.90E+04	1.91E+04

Table P–434. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle M_y^{\text{rad}} \rangle$	**Unfiltered** M_y^{rad}		**Filtered** M_y^{rad}		**Filtered** $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	-10.8	-1.96E+04	1.97E+04	-1.91E+04	1.91E+04	-1.90E+04	1.91E+04
1.75	-18.8	-3.42E+04	3.44E+04	-3.32E+04	3.33E+04	-1.90E+04	1.90E+04
2.50	-26.9	-4.89E+04	4.91E+04	-4.75E+04	4.76E+04	-1.90E+04	1.90E+04
3.75	-40.3	-7.34E+04	7.37E+04	-7.12E+04	7.13E+04	-1.90E+04	1.90E+04
5.00	-53.8	-9.80E+04	9.83E+04	-9.51E+04	9.52E+04	-1.90E+04	1.91E+04

Table P–435. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle M_y^{\text{rad}} \rangle$	**Unfiltered** M_y^{rad}		**Filtered** M_y^{rad}		**Filtered** $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	1.77E-04	-3.91E+04	3.91E+04	-3.90E+04	3.90E+04	-3.90E+04	3.90E+04
1.75	-3.13E-03	-6.84E+04	6.84E+04	-6.83E+04	6.83E+04	-3.90E+04	3.90E+04
2.50	-2.70E-02	-9.77E+04	9.77E+04	-9.76E+04	9.76E+04	-3.90E+04	3.90E+04
3.75	-5.27E-03	-1.47E+05	1.47E+05	-1.46E+05	1.46E+05	-3.90E+04	3.90E+04
5.00	-4.73E-02	-1.95E+05	1.95E+05	-1.95E+05	1.95E+05	-3.90E+04	3.90E+04

Table P–436. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle M_y^{\text{rad}} \rangle$	**Unfiltered** M_y^{rad}		**Filtered** M_y^{rad}		**Filtered** $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	52.0	-1.84E+04	1.84E+04	-1.84E+04	1.84E+04	-1.84E+04	1.83E+04
1.75	160.	-3.21E+04	3.22E+04	-3.21E+04	3.22E+04	-1.84E+04	1.83E+04
2.50	327.	-4.59E+04	4.60E+04	-4.59E+04	4.59E+04	-1.85E+04	1.82E+04
3.75	738.	-6.89E+04	6.89E+04	-6.88E+04	6.89E+04	-1.85E+04	1.82E+04
5.00	1.31E+03	-9.18E+04	9.19E+04	-9.18E+04	9.19E+04	-1.86E+04	1.81E+04

Table P–437. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	52.0	-1.84E+04	1.84E+04	-1.84E+04	1.84E+04	-1.84E+04	1.83E+04
1.75	160.	-3.21E+04	3.22E+04	-3.21E+04	3.22E+04	-1.84E+04	1.83E+04
2.50	327.	-4.59E+04	4.60E+04	-4.59E+04	4.59E+04	-1.85E+04	1.82E+04
3.75	738.	-6.89E+04	6.89E+04	-6.88E+04	6.89E+04	-1.85E+04	1.82E+04
5.00	1.31E+03	-9.18E+04	9.19E+04	-9.18E+04	9.19E+04	-1.86E+04	1.81E+04

Table P–438. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	-304.	-1.85E+04	1.62E+04	-1.85E+04	1.62E+04	-1.82E+04	1.65E+04
1.75	-1.15E+03	-3.23E+04	2.33E+04	-3.23E+04	2.32E+04	-1.78E+04	1.39E+04
2.50	-2.16E+03	-4.56E+04	2.88E+04	-4.55E+04	2.85E+04	-1.73E+04	1.22E+04
3.75	-3.81E+03	-6.68E+04	4.83E+04	-6.63E+04	4.17E+04	-1.67E+04	1.21E+04
5.00	-5.14E+03	-8.74E+04	7.66E+04	-8.65E+04	6.17E+04	-1.63E+04	1.34E+04

Table P–439. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NFA							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–440. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NSHIPMO							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	-440.	-3.49E+04	3.28E+04	-3.46E+04	3.24E+04	-3.41E+04	3.29E+04
1.75	-2.38E+03	-6.17E+04	5.39E+04	-6.12E+04	5.25E+04	-3.36E+04	3.13E+04
2.50	-4.41E+03	-8.83E+04	7.42E+04	-8.74E+04	6.78E+04	-3.32E+04	2.89E+04
3.75	-8.97E+03	-1.33E+05	1.04E+05	-1.32E+05	9.35E+04	-3.27E+04	2.73E+04
5.00	-1.21E+04	-1.76E+05	1.51E+05	-1.75E+05	1.25E+05	-3.26E+04	2.73E+04

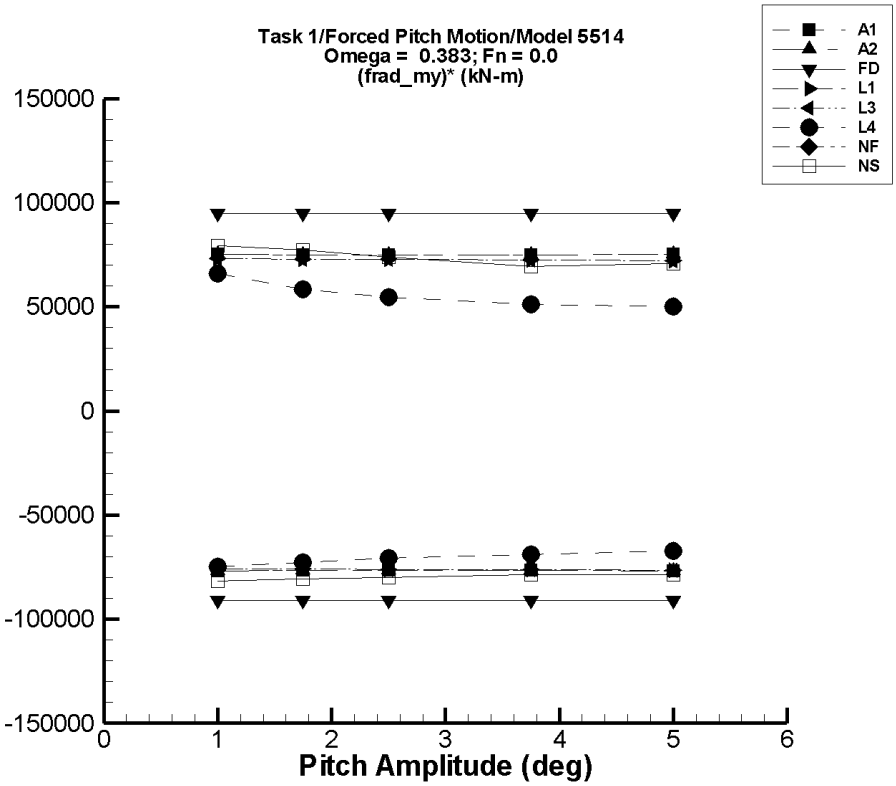

Figure P–56. Minimum and maximum of filtered $\left(M_y^{\text{rad}} - \langle M_y^{\text{rad}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–441. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle M_y^{\text{rad}} \rangle$	**Unfiltered** M_y^{rad}		**Filtered** M_y^{rad}		**Filtered** $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	-46.9	-7.72E+04	7.64E+04	-7.69E+04	7.53E+04	-7.69E+04	7.54E+04
1.75	-81.7	-1.35E+05	1.33E+05	-1.34E+05	1.31E+05	-7.65E+04	7.51E+04
2.50	-117.	-1.92E+05	1.90E+05	-1.92E+05	1.88E+05	-7.66E+04	7.51E+04
3.75	-175.	-2.89E+05	2.85E+05	-2.87E+05	2.82E+05	-7.66E+04	7.51E+04
5.00	-234.	-3.85E+05	3.81E+05	-3.84E+05	3.76E+05	-7.67E+04	7.52E+04

Table P–442. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle M_y^{\text{rad}} \rangle$	**Unfiltered** M_y^{rad}		**Filtered** M_y^{rad}		**Filtered** $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	-46.9	-7.72E+04	7.64E+04	-7.69E+04	7.53E+04	-7.69E+04	7.54E+04
1.75	-81.7	-1.35E+05	1.33E+05	-1.34E+05	1.31E+05	-7.65E+04	7.51E+04
2.50	-117.	-1.92E+05	1.90E+05	-1.92E+05	1.88E+05	-7.66E+04	7.51E+04
3.75	-175.	-2.89E+05	2.85E+05	-2.87E+05	2.82E+05	-7.66E+04	7.51E+04
5.00	-234.	-3.85E+05	3.81E+05	-3.84E+05	3.76E+05	-7.67E+04	7.52E+04

Table P–443. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle M_y^{\text{rad}} \rangle$	**Unfiltered** M_y^{rad}		**Filtered** M_y^{rad}		**Filtered** $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	-5.53E-03	-9.32E+04	9.32E+04	-9.32E+04	9.29E+04	-9.32E+04	9.29E+04
1.75	-1.80E-02	-1.63E+05	1.63E+05	-1.63E+05	1.62E+05	-9.32E+04	9.29E+04
2.50	-2.71E-02	-2.33E+05	2.33E+05	-2.33E+05	2.32E+05	-9.32E+04	9.29E+04
3.75	-3.35E-02	-3.50E+05	3.50E+05	-3.49E+05	3.48E+05	-9.32E+04	9.29E+04
5.00	-5.17E-02	-4.66E+05	4.66E+05	-4.66E+05	4.64E+05	-9.32E+04	9.29E+04

Table P–444. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle M_y^{\text{rad}} \rangle$	**Unfiltered** M_y^{rad}		**Filtered** M_y^{rad}		**Filtered** $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	202.	-7.45E+04	7.45E+04	-7.44E+04	7.44E+04	-7.46E+04	7.42E+04
1.75	623.	-1.30E+05	1.30E+05	-1.30E+05	1.30E+05	-7.48E+04	7.40E+04
2.50	1.27E+03	-1.86E+05	1.86E+05	-1.86E+05	1.86E+05	-7.49E+04	7.39E+04
3.75	2.87E+03	-2.79E+05	2.79E+05	-2.79E+05	2.79E+05	-7.52E+04	7.36E+04
5.00	5.11E+03	-3.73E+05	3.72E+05	-3.72E+05	3.72E+05	-7.54E+04	7.33E+04

Table P–445. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle M_y^{\text{rad}} \rangle$	**Unfiltered** M_y^{rad}		**Filtered** M_y^{rad}		**Filtered** $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	202.	-7.45E+04	7.45E+04	-7.44E+04	7.44E+04	-7.46E+04	7.42E+04
1.75	623.	-1.30E+05	1.30E+05	-1.30E+05	1.30E+05	-7.48E+04	7.40E+04
2.50	1.27E+03	-1.86E+05	1.86E+05	-1.86E+05	1.86E+05	-7.49E+04	7.39E+04
3.75	2.87E+03	-2.79E+05	2.79E+05	-2.79E+05	2.79E+05	-7.52E+04	7.36E+04
5.00	5.11E+03	-3.73E+05	3.72E+05	-3.72E+05	3.72E+05	-7.54E+04	7.33E+04

Table P–446. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle M_y^{\text{rad}} \rangle$	**Unfiltered** M_y^{rad}		**Filtered** M_y^{rad}		**Filtered** $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	-1.61E+03	-7.55E+04	6.57E+04	-7.52E+04	6.56E+04	-7.36E+04	6.72E+04
1.75	-5.75E+03	-1.31E+05	9.89E+04	-1.31E+05	9.88E+04	-7.15E+04	5.97E+04
2.50	-1.06E+04	-1.85E+05	1.29E+05	-1.85E+05	1.29E+05	-6.96E+04	5.58E+04
3.75	-1.87E+04	-2.73E+05	1.77E+05	-2.73E+05	1.77E+05	-6.78E+04	5.22E+04
5.00	-2.55E+04	-3.58E+05	2.31E+05	-3.57E+05	2.31E+05	-6.64E+04	5.13E+04

Table P–447. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NFA							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–448. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NSHIPMO							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	-1.23E+03	-8.39E+04	7.91E+04	-8.30E+04	7.82E+04	-8.17E+04	7.94E+04
1.75	-5.91E+03	-1.48E+05	1.33E+05	-1.47E+05	1.29E+05	-8.06E+04	7.73E+04
2.50	-1.02E+04	-2.12E+05	1.93E+05	-2.10E+05	1.75E+05	-7.99E+04	7.39E+04
3.75	-2.11E+04	-3.18E+05	2.72E+05	-3.16E+05	2.39E+05	-7.87E+04	6.95E+04
5.00	-2.80E+04	-4.25E+05	3.96E+05	-4.21E+05	3.26E+05	-7.87E+04	7.09E+04

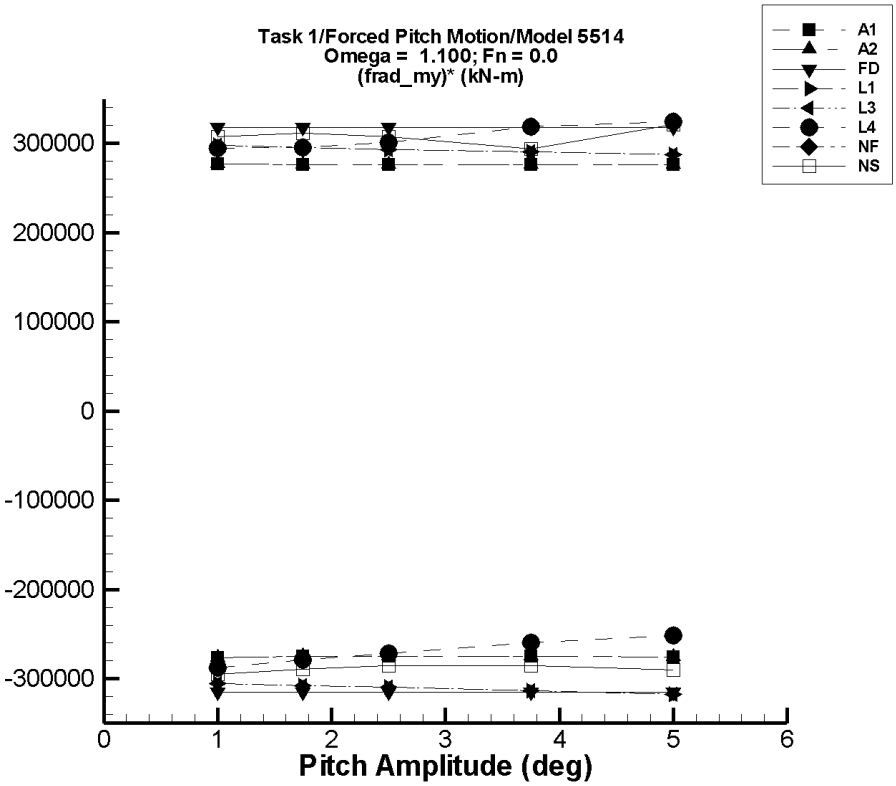

Figure P–57. Minimum and maximum of filtered $\left(M_y^{\text{rad}} - \langle M_y^{\text{rad}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.0$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–449. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle M_y^{\text{rad}} \rangle$	**Unfiltered** M_y^{rad}		**Filtered** M_y^{rad}		**Filtered** $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	-270.	-2.85E+05	2.85E+05	-2.77E+05	2.77E+05	-2.76E+05	2.77E+05
1.75	-471.	-4.97E+05	4.97E+05	-4.82E+05	4.82E+05	-2.75E+05	2.76E+05
2.50	-673.	-7.10E+05	7.11E+05	-6.89E+05	6.89E+05	-2.75E+05	2.76E+05
3.75	-1.01E+03	-1.07E+06	1.07E+06	-1.03E+06	1.03E+06	-2.75E+05	2.76E+05
5.00	-1.35E+03	-1.42E+06	1.42E+06	-1.38E+06	1.38E+06	-2.76E+05	2.76E+05

Table P–450. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle M_y^{\text{rad}} \rangle$	**Unfiltered** M_y^{rad}		**Filtered** M_y^{rad}		**Filtered** $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	-270.	-2.85E+05	2.85E+05	-2.77E+05	2.77E+05	-2.76E+05	2.77E+05
1.75	-471.	-4.97E+05	4.97E+05	-4.82E+05	4.82E+05	-2.75E+05	2.76E+05
2.50	-673.	-7.10E+05	7.11E+05	-6.89E+05	6.89E+05	-2.75E+05	2.76E+05
3.75	-1.01E+03	-1.07E+06	1.07E+06	-1.03E+06	1.03E+06	-2.75E+05	2.76E+05
5.00	-1.35E+03	-1.42E+06	1.42E+06	-1.38E+06	1.38E+06	-2.76E+05	2.76E+05

Table P–451. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	1.42E-02	-3.26E+05	3.26E+05	-3.16E+05	3.17E+05	-3.16E+05	3.17E+05
1.75	3.41E-03	-5.70E+05	5.71E+05	-5.53E+05	5.55E+05	-3.16E+05	3.17E+05
2.50	4.25E-02	-8.15E+05	8.16E+05	-7.90E+05	7.93E+05	-3.16E+05	3.17E+05
3.75	9.94E-03	-1.22E+06	1.22E+06	-1.18E+06	1.19E+06	-3.16E+05	3.17E+05
5.00	3.81E-02	-1.63E+06	1.63E+06	-1.58E+06	1.59E+06	-3.16E+05	3.17E+05

Table P–452. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	497.	-3.07E+05	3.02E+05	-3.04E+05	2.99E+05	-3.04E+05	2.99E+05
1.75	1.33E+03	-5.41E+05	5.26E+05	-5.34E+05	5.21E+05	-3.06E+05	2.97E+05
2.50	2.57E+03	-7.77E+05	7.47E+05	-7.68E+05	7.39E+05	-3.08E+05	2.95E+05
3.75	5.52E+03	-1.18E+06	1.11E+06	-1.16E+06	1.10E+06	-3.12E+05	2.92E+05
5.00	9.57E+03	-1.59E+06	1.47E+06	-1.57E+06	1.45E+06	-3.15E+05	2.89E+05

Table P–453. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	497.	-3.07E+05	3.02E+05	-3.04E+05	2.99E+05	-3.04E+05	2.99E+05
1.75	1.33E+03	-5.41E+05	5.26E+05	-5.34E+05	5.21E+05	-3.06E+05	2.97E+05
2.50	2.57E+03	-7.77E+05	7.47E+05	-7.68E+05	7.39E+05	-3.08E+05	2.95E+05
3.75	5.52E+03	-1.18E+06	1.11E+06	-1.16E+06	1.10E+06	-3.12E+05	2.92E+05
5.00	9.57E+03	-1.59E+06	1.47E+06	-1.57E+06	1.45E+06	-3.15E+05	2.89E+05

Table P–454. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	-1.60E+03	-2.95E+05	3.04E+05	-2.88E+05	2.95E+05	-2.86E+05	2.97E+05
1.75	-4.93E+03	-5.01E+05	5.64E+05	-4.89E+05	5.17E+05	-2.77E+05	2.98E+05
2.50	-6.84E+03	-6.93E+05	8.66E+05	-6.78E+05	7.53E+05	-2.69E+05	3.04E+05
3.75	-5.78E+03	-9.91E+05	1.47E+06	-9.65E+05	1.20E+06	-2.56E+05	3.22E+05
5.00	-1.03E+04	-1.29E+06	2.10E+06	-1.25E+06	1.63E+06	-2.48E+05	3.29E+05

Table P–455. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NFA							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–456. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NSHIPMO							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	-4.92E+03	-3.03E+05	3.07E+05	-3.00E+05	3.02E+05	-2.95E+05	3.07E+05
1.75	-2.52E+04	-5.39E+05	5.33E+05	-5.32E+05	5.20E+05	-2.90E+05	3.11E+05
2.50	-4.20E+04	-7.64E+05	8.30E+05	-7.56E+05	7.27E+05	-2.86E+05	3.08E+05
3.75	-9.45E+04	-1.17E+06	1.25E+06	-1.17E+06	1.01E+06	-2.85E+05	2.94E+05
5.00	-1.30E+05	-1.59E+06	1.95E+06	-1.58E+06	1.47E+06	-2.90E+05	3.21E+05

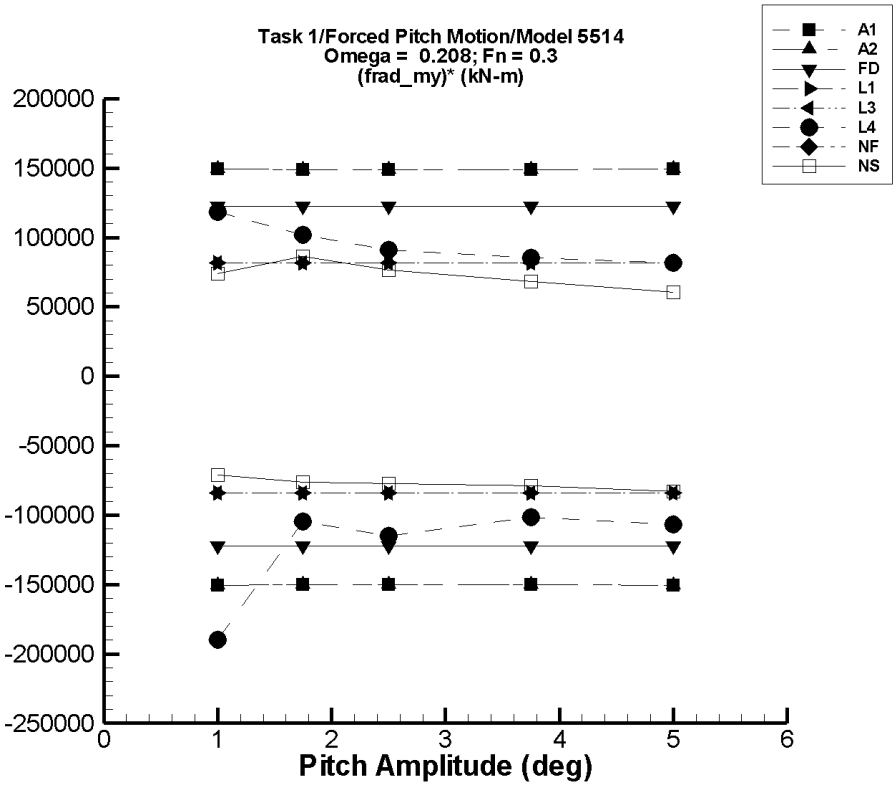

Figure P–58. Minimum and maximum of filtered $\left(M_y^{\text{rad}} - \langle M_y^{\text{rad}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.2079$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–457. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle M_y^{\text{rad}} \rangle$	**Unfiltered** M_y^{rad}		**Filtered** M_y^{rad}		**Filtered** $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	-329.	-1.51E+05	1.49E+05	-1.51E+05	1.49E+05	-1.51E+05	1.50E+05
1.75	-573.	-2.64E+05	2.60E+05	-2.63E+05	2.60E+05	-1.50E+05	1.49E+05
2.50	-819.	-3.77E+05	3.72E+05	-3.76E+05	3.72E+05	-1.50E+05	1.49E+05
3.75	-1.23E+03	-5.66E+05	5.59E+05	-5.64E+05	5.58E+05	-1.50E+05	1.49E+05
5.00	-1.64E+03	-7.55E+05	7.46E+05	-7.53E+05	7.44E+05	-1.50E+05	1.49E+05

Table P–458. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle M_y^{\text{rad}} \rangle$	**Unfiltered** M_y^{rad}		**Filtered** M_y^{rad}		**Filtered** $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	-329.	-1.51E+05	1.49E+05	-1.51E+05	1.49E+05	-1.51E+05	1.50E+05
1.75	-573.	-2.64E+05	2.60E+05	-2.63E+05	2.60E+05	-1.50E+05	1.49E+05
2.50	-819.	-3.77E+05	3.72E+05	-3.76E+05	3.72E+05	-1.50E+05	1.49E+05
3.75	-1.23E+03	-5.66E+05	5.59E+05	-5.64E+05	5.58E+05	-1.50E+05	1.49E+05
5.00	-1.64E+03	-7.55E+05	7.46E+05	-7.53E+05	7.44E+05	-1.50E+05	1.49E+05

Table P–459. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	-4.63E-03	-1.22E+05	1.22E+05	-1.22E+05	1.22E+05	-1.22E+05	1.22E+05
1.75	2.34E-02	-2.14E+05	2.14E+05	-2.14E+05	2.14E+05	-1.22E+05	1.22E+05
2.50	-3.74E-03	-3.06E+05	3.06E+05	-3.06E+05	3.06E+05	-1.22E+05	1.22E+05
3.75	1.82E-02	-4.59E+05	4.59E+05	-4.59E+05	4.59E+05	-1.22E+05	1.22E+05
5.00	3.28E-02	-6.12E+05	6.12E+05	-6.11E+05	6.11E+05	-1.22E+05	1.22E+05

Table P–460. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	4.35E+04	-3.93E+04	1.26E+05	-3.93E+04	1.26E+05	-8.28E+04	8.28E+04
1.75	4.35E+04	-1.01E+05	1.89E+05	-1.01E+05	1.88E+05	-8.28E+04	8.28E+04
2.50	4.36E+04	-1.64E+05	2.51E+05	-1.63E+05	2.51E+05	-8.28E+04	8.28E+04
3.75	4.37E+04	-2.67E+05	3.55E+05	-2.67E+05	3.54E+05	-8.28E+04	8.29E+04
5.00	4.39E+04	-3.70E+05	4.59E+05	-3.70E+05	4.58E+05	-8.28E+04	8.29E+04

Table P–461. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	4.35E+04	-3.93E+04	1.26E+05	-3.93E+04	1.26E+05	-8.28E+04	8.28E+04
1.75	4.35E+04	-1.01E+05	1.89E+05	-1.01E+05	1.89E+05	-8.28E+04	8.28E+04
2.50	4.36E+04	-1.64E+05	2.51E+05	-1.63E+05	2.51E+05	-8.28E+04	8.29E+04
3.75	4.37E+04	-2.67E+05	3.55E+05	-2.67E+05	3.55E+05	-8.28E+04	8.29E+04
5.00	4.39E+04	-3.70E+05	4.59E+05	-3.70E+05	4.58E+05	-8.28E+04	8.29E+04

Table P–462. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	3.53E+04	-1.59E+05	1.60E+05	-1.53E+05	1.55E+05	-1.89E+05	1.19E+05
1.75	2.10E+04	-1.69E+05	2.24E+05	-1.60E+05	2.01E+05	-1.03E+05	1.03E+05
2.50	1.03E+04	-2.91E+05	2.52E+05	-2.75E+05	2.41E+05	-1.14E+05	9.21E+04
3.75	-9.72E+03	-4.10E+05	3.37E+05	-3.87E+05	3.14E+05	-1.00E+05	8.64E+04
5.00	-2.69E+04	-5.86E+05	4.23E+05	-5.55E+05	3.87E+05	-1.06E+05	8.27E+04

Table P–463. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NFA							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–464. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NSHIPMO							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	4.33E+03	-6.77E+04	7.88E+04	-6.70E+04	7.83E+04	-7.13E+04	7.40E+04
1.75	1.96E+04	-1.15E+05	1.71E+05	-1.14E+05	1.70E+05	-7.63E+04	8.61E+04
2.50	2.55E+04	-1.70E+05	2.24E+05	-1.68E+05	2.17E+05	-7.72E+04	7.66E+04
3.75	3.50E+04	-2.63E+05	2.94E+05	-2.61E+05	2.92E+05	-7.89E+04	6.84E+04
5.00	4.75E+04	-3.69E+05	3.69E+05	-3.67E+05	3.50E+05	-8.29E+04	6.06E+04

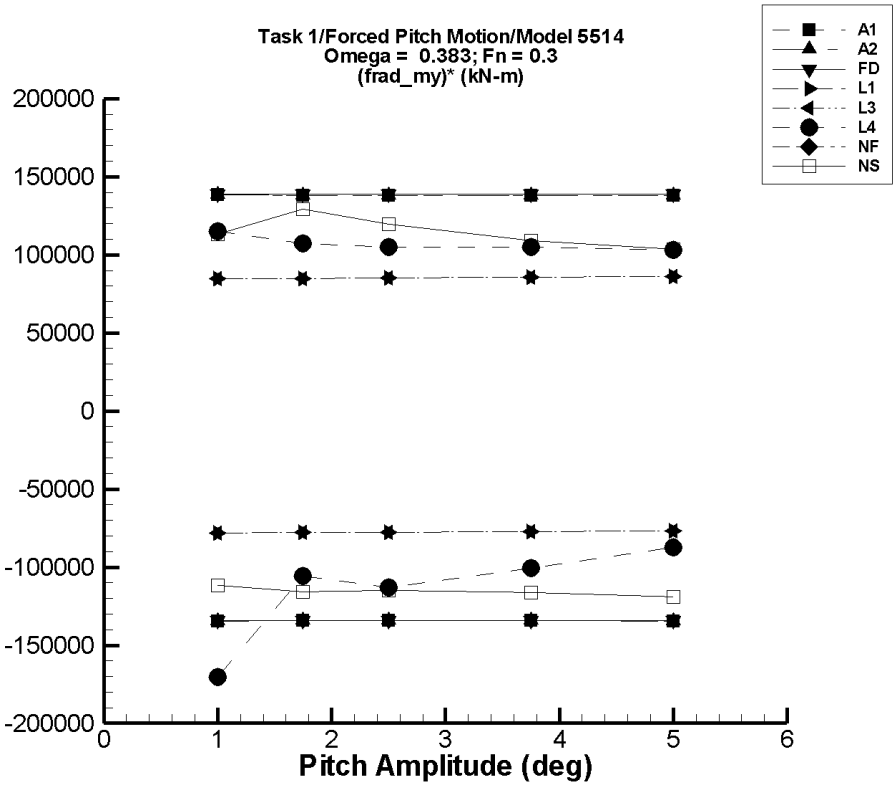

Figure P–59. Minimum and maximum of filtered $\left(M_y^{\text{rad}} - \langle M_y^{\text{rad}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 0.3831$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–465. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle M_y^{\text{rad}} \rangle$	**Unfiltered** M_y^{rad}		**Filtered** M_y^{rad}		**Filtered** $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	179.	-1.41E+05	1.39E+05	-1.35E+05	1.38E+05	-1.35E+05	1.38E+05
1.75	313.	-2.45E+05	2.42E+05	-2.35E+05	2.41E+05	-1.34E+05	1.38E+05
2.50	447.	-3.51E+05	3.46E+05	-3.35E+05	3.45E+05	-1.34E+05	1.38E+05
3.75	670.	-5.26E+05	5.19E+05	-5.03E+05	5.18E+05	-1.34E+05	1.38E+05
5.00	895.	-7.02E+05	6.93E+05	-6.71E+05	6.91E+05	-1.34E+05	1.38E+05

Table P–466. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle M_y^{\text{rad}} \rangle$	**Unfiltered** M_y^{rad}		**Filtered** M_y^{rad}		**Filtered** $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	179.	-1.41E+05	1.39E+05	-1.35E+05	1.38E+05	-1.35E+05	1.38E+05
1.75	313.	-2.45E+05	2.42E+05	-2.35E+05	2.41E+05	-1.34E+05	1.38E+05
2.50	447.	-3.51E+05	3.46E+05	-3.35E+05	3.45E+05	-1.34E+05	1.38E+05
3.75	670.	-5.26E+05	5.19E+05	-5.03E+05	5.18E+05	-1.34E+05	1.38E+05
5.00	895.	-7.02E+05	6.93E+05	-6.71E+05	6.91E+05	-1.34E+05	1.38E+05

Table P–467. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	3.85E-03	-1.37E+05	1.37E+05	-1.36E+05	1.36E+05	-1.36E+05	1.36E+05
1.75	1.63E-02	-2.39E+05	2.39E+05	-2.39E+05	2.39E+05	-1.36E+05	1.36E+05
2.50	2.76E-02	-3.42E+05	3.42E+05	-3.41E+05	3.41E+05	-1.36E+05	1.36E+05
3.75	6.96E-02	-5.13E+05	5.13E+05	-5.11E+05	5.11E+05	-1.36E+05	1.36E+05
5.00	5.84E-02	-6.84E+05	6.84E+05	-6.82E+05	6.82E+05	-1.36E+05	1.36E+05

Table P–468. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	4.36E+04	-3.75E+04	1.25E+05	-3.74E+04	1.25E+05	-8.10E+04	8.18E+04
1.75	4.39E+04	-9.75E+04	1.88E+05	-9.74E+04	1.87E+05	-8.07E+04	8.20E+04
2.50	4.43E+04	-1.57E+05	2.50E+05	-1.57E+05	2.50E+05	-8.04E+04	8.23E+04
3.75	4.52E+04	-2.55E+05	3.56E+05	-2.55E+05	3.56E+05	-7.99E+04	8.28E+04
5.00	4.65E+04	-3.51E+05	4.64E+05	-3.51E+05	4.63E+05	-7.95E+04	8.33E+04

Table P–469. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	4.36E+04	-3.75E+04	1.25E+05	-3.74E+04	1.25E+05	-8.10E+04	8.18E+04
1.75	4.39E+04	-9.75E+04	1.88E+05	-9.74E+04	1.87E+05	-8.07E+04	8.20E+04
2.50	4.42E+04	-1.57E+05	2.50E+05	-1.57E+05	2.50E+05	-8.04E+04	8.23E+04
3.75	4.52E+04	-2.55E+05	3.56E+05	-2.55E+05	3.56E+05	-7.99E+04	8.28E+04
5.00	4.65E+04	-3.51E+05	4.64E+05	-3.51E+05	4.63E+05	-7.95E+04	8.33E+04

Table P–470. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	3.59E+04	-1.45E+05	1.54E+05	-1.37E+05	1.48E+05	-1.73E+05	1.12E+05
1.75	2.56E+04	-1.92E+05	2.27E+05	-1.65E+05	2.08E+05	-1.09E+05	1.04E+05
2.50	1.76E+04	-2.90E+05	2.87E+05	-2.72E+05	2.74E+05	-1.16E+05	1.02E+05
3.75	1.01E+04	-3.95E+05	4.31E+05	-3.76E+05	3.94E+05	-1.03E+05	1.02E+05
5.00	2.82E+03	-4.81E+05	5.34E+05	-4.46E+05	5.06E+05	-8.97E+04	1.01E+05

Table P–471. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NFA							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–472. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NSHIPMO							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	864.	-1.12E+05	1.15E+05	-1.11E+05	1.14E+05	-1.12E+05	1.13E+05
1.75	1.45E+04	-1.90E+05	2.43E+05	-1.88E+05	2.41E+05	-1.16E+05	1.29E+05
2.50	1.55E+04	-2.76E+05	3.25E+05	-2.72E+05	3.15E+05	-1.15E+05	1.20E+05
3.75	1.68E+04	-4.23E+05	4.43E+05	-4.20E+05	4.25E+05	-1.16E+05	1.09E+05
5.00	2.56E+04	-5.71E+05	5.95E+05	-5.68E+05	5.43E+05	-1.19E+05	1.03E+05

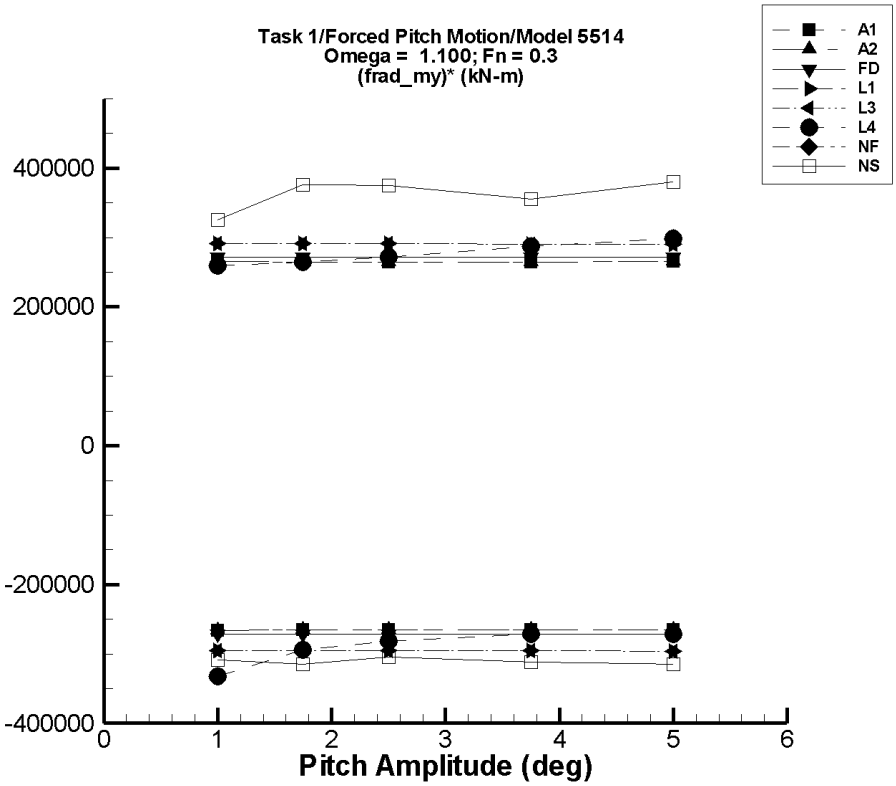

Figure P–60. Minimum and maximum of filtered $\left(M_y^{\text{rad}} - \langle M_y^{\text{rad}} \rangle\right)/\theta_a$ vs. θ_a for $\omega = 1.1000$ rad/s, $F_n = 0.3$ in the case of task 1, forced pitch motion, and Model 5514 scaled to L = 142 m.

Table P–473. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (AEGIR-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle M_y^{\text{rad}} \rangle$	**Unfiltered** M_y^{rad}		**Filtered** M_y^{rad}		**Filtered** $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	-1.77E+03	-2.77E+05	2.73E+05	-2.68E+05	2.64E+05	-2.66E+05	2.66E+05
1.75	-3.09E+03	-4.82E+05	4.76E+05	-4.67E+05	4.60E+05	-2.65E+05	2.65E+05
2.50	-4.41E+03	-6.89E+05	6.81E+05	-6.68E+05	6.57E+05	-2.65E+05	2.65E+05
3.75	-6.62E+03	-1.03E+06	1.02E+06	-1.00E+06	9.86E+05	-2.65E+05	2.65E+05
5.00	-8.83E+03	-1.38E+06	1.36E+06	-1.34E+06	1.32E+06	-2.66E+05	2.65E+05

Table P–474. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (AEGIR-2, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle M_y^{\text{rad}} \rangle$	**Unfiltered** M_y^{rad}		**Filtered** M_y^{rad}		**Filtered** $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m/°)**	**Max. (kN-m/°)**
1.00	-1.77E+03	-2.77E+05	2.73E+05	-2.68E+05	2.64E+05	-2.66E+05	2.66E+05
1.75	-3.09E+03	-4.82E+05	4.76E+05	-4.67E+05	4.60E+05	-2.65E+05	2.65E+05
2.50	-4.41E+03	-6.89E+05	6.81E+05	-6.68E+05	6.57E+05	-2.65E+05	2.65E+05
3.75	-6.62E+03	-1.03E+06	1.02E+06	-1.00E+06	9.86E+05	-2.65E+05	2.65E+05
5.00	-8.83E+03	-1.38E+06	1.36E+06	-1.34E+06	1.32E+06	-2.66E+05	2.65E+05

Table P–475. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (FREDYN, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	-5.05E-04	-2.80E+05	2.80E+05	-2.72E+05	2.72E+05	-2.72E+05	2.72E+05
1.75	2.06E-02	-4.91E+05	4.90E+05	-4.76E+05	4.75E+05	-2.72E+05	2.72E+05
2.50	2.32E-02	-7.01E+05	7.00E+05	-6.79E+05	6.79E+05	-2.72E+05	2.72E+05
3.75	6.04E-02	-1.05E+06	1.05E+06	-1.02E+06	1.02E+06	-2.72E+05	2.72E+05
5.00	5.59E-02	-1.40E+06	1.40E+06	-1.36E+06	1.36E+06	-2.72E+05	2.72E+05

Table P–476. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (LAMP-1, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	4.48E+04	-2.52E+05	3.41E+05	-2.49E+05	3.38E+05	-2.93E+05	2.93E+05
1.75	4.69E+04	-4.73E+05	5.65E+05	-4.67E+05	5.59E+05	-2.94E+05	2.93E+05
2.50	5.02E+04	-6.93E+05	7.90E+05	-6.84E+05	7.82E+05	-2.94E+05	2.93E+05
3.75	5.82E+04	-1.06E+06	1.17E+06	-1.04E+06	1.15E+06	-2.94E+05	2.92E+05
5.00	6.95E+04	-1.42E+06	1.55E+06	-1.40E+06	1.53E+06	-2.95E+05	2.92E+05

Table P–477. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (LAMP-3, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	4.47E+04	-2.52E+05	3.41E+05	-2.49E+05	3.38E+05	-2.93E+05	2.93E+05
1.75	4.69E+04	-4.73E+05	5.65E+05	-4.67E+05	5.59E+05	-2.94E+05	2.93E+05
2.50	5.02E+04	-6.93E+05	7.90E+05	-6.84E+05	7.81E+05	-2.94E+05	2.93E+05
3.75	5.82E+04	-1.06E+06	1.17E+06	-1.04E+06	1.15E+06	-2.94E+05	2.92E+05
5.00	6.95E+04	-1.42E+06	1.55E+06	-1.40E+06	1.53E+06	-2.95E+05	2.92E+05

Table P–478. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (LAMP-4, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	2.75E+04	-3.17E+05	3.22E+05	-3.03E+05	2.89E+05	-3.31E+05	2.61E+05
1.75	1.36E+04	-5.18E+05	5.45E+05	-4.96E+05	4.81E+05	-2.91E+05	2.67E+05
2.50	5.58E+03	-7.18E+05	8.15E+05	-6.91E+05	6.94E+05	-2.78E+05	2.75E+05
3.75	-2.52E+03	-1.02E+06	1.35E+06	-1.01E+06	1.09E+06	-2.67E+05	2.92E+05
5.00	-1.47E+04	-1.38E+06	1.93E+06	-1.35E+06	1.50E+06	-2.67E+05	3.03E+05

Table P–479. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (NFA, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NFA							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	—	—	—	—	—	—	—
1.75	—	—	—	—	—	—	—
2.50	—	—	—	—	—	—	—
3.75	—	—	—	—	—	—	—
5.00	—	—	—	—	—	—	—

Table P–480. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the Case (NSHIPMO, Task 1, Forced Pitch Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NSHIPMO							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
θ_a (°)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m/°)	Max. (kN-m/°)
1.00	-1.74E+04	-3.30E+05	3.12E+05	-3.27E+05	3.08E+05	-3.09E+05	3.25E+05
1.75	-4.37E+03	-5.62E+05	6.66E+05	-5.55E+05	6.54E+05	-3.15E+05	3.76E+05
2.50	-2.88E+04	-7.98E+05	9.74E+05	-7.91E+05	9.08E+05	-3.05E+05	3.75E+05
3.75	-7.69E+04	-1.25E+06	1.44E+06	-1.25E+06	1.26E+06	-3.12E+05	3.56E+05
5.00	-9.84E+04	-1.68E+06	2.20E+06	-1.67E+06	1.80E+06	-3.14E+05	3.80E+05